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ABSTRACT

This guide for women's archery and golf dated June 1972 - June 1974 details rules and standards as well as the Division for Girls and Women's Sports (DGWS) statement of beliefs. Articles on archery nomenclature, archery interest builders, and archery golf are included in the section on archery. Articles dealing with golf take up such topics as corridor golf, checkpoints for a full swing five iron, indoor golf tests, and self-testing. (JB)

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Archery - Golf
GUIDE

JUNE 1972 – JUNE 1974

With Official Rules

Editors

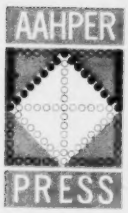
Margaret L. Driscoll, Archery

Doddy Michalson, Golf

SP 006 733

THE DIVISION FOR GIRLS AND WOMEN'S SPORTS

American Association for Health, Physical Education, and Recreation



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DIVISION FOR GIRLS AND WOMEN'S SPORTS

The Division for Girls and Women's Sports is a nonprofit educational organization designed to serve the needs and interests of administrators, teachers, leaders, and participants in sports programs for girls and women. It is one of eight divisions of the American Association for Health, Physical Education and Recreation. Active members of the Division are women members of the American Association for Health, Physical Education, and Recreation who are interested in sports for girls and women and who participate in the work of the Division. These women are professional leaders in schools, colleges, community centers, industrial plants, military services, public and private clubs, and agencies.

The purpose of the Division for Girls and Women's Sports is to foster the development of sports programs for the enrichment of the life of the participant.

The Division for Girls and Women's Sports attempts to promote desirable sports programs through:

1. Formulating and publicizing guiding principles and standards for the administrator, leader, official and player.
2. Publishing and interpreting rules governing sports for girls and women.
3. Providing the means for training, evaluating, and rating of officials.
4. Disseminating information on the conduct of girls and women's sports.
5. Stimulating, evaluating and disseminating research in the field of girls and women's sports.
6. Organizing various units of AAHPER concerned primarily with girls and women's sports in order to exert effective leadership.
7. Sharing in the interests of other AAHPER divisions and/or sections in promoting sports programs.
8. Cooperating with allied groups interested in girls and women's sports in order to formulate policies and rules that affect the conduct of women's sports.

SPORTS GUIDES AND OFFICIAL RULES COMMITTEE INTEREST INDICATOR

The SGOR Committee is endeavoring to broaden its base of personnel and to strengthen its services to *Guide* readers. The purpose of this form is to offer readers an opportunity to join us in meeting this need. Please complete this form and send it to the SGOR Associate Chairman-elect, whose name and address appear on page 16.

Name_____

Professional Address _____

City_____ State_____ Zip Code_____

1. Check the Sport Committee(s) which would be of interest to you:

____ Aquatics	____ Flag football	____ Speedball
____ Archery	____ Golf	____ Squash
____ Badminton	____ Gymnastics	____ Tennis
____ Basketball	____ Lacrosse	____ Track and Field
____ Bowling	____ Outing Activities	____ Volleyball
____ Fencing	____ Soccer	____ Winter Sports
____ Field Hockey	____ Softball	

2. Would you like to serve as a member of a Sports Guide Committee of your interest?* ____Yes ____No
3. Would you consider submitting an article to a Guide Committee as a prospective author? ____Yes ____No
   Possible topic or title_____
4. Can you suggest topics for articles which you would like to have included in future *Guides?* (Please indicate sport.)

   _____
5. Are there others whom you would recommend for consideration as possible committee members or authors? Please indicate below. (Use additional paper, if necessary.)

Name_____ Sport(s)_____

Professional Address _____

City _____ State _____ Zip Code_____

Sports Committee Member ☐ Prospective Author ☐ (Check one)

*You may serve on only one Sport Guide Committee at a time.

DGWS STATEMENT OF BELIEFS

We believe that opportunities for instruction and participation in sports should be included in the educational experiences of every girl. Sports are an integral part of the culture in which we live. Sports skills and sports participation are valuable social and recreational tools which may be used to enrich the lives of women in our society.

We believe that sports opportunities at all levels of skill should be available to girls and women who wish to take advantage of these experiences. Competition and cooperation may be demonstrated in all sports programs although the type and intensity of the competition will vary with the degree or level of skill of the participants. An understanding of the relationship between competition and cooperation and of how to utilize both within the accepted framework of our society is one of the desirable outcomes of sports participation.

We believe in the importance of physical activity in the maintenance of the general health of the participant.

We believe that participation in sports contributes to the development of self-confidence and to the establishment of desirable interpersonal relations.

For these reasons, *we believe* that girls and women of all ages should be provided with comprehensive school and community programs of sports and recreation. In addition, they should be strongly and actively encouraged to take part in such programs.

PROGRAM

We believe that sports programs for girls and women should be broad, varied, and planned for participants at differing levels of skill. There should be full awareness of the wide span of individual differences so that all types, ages, and skill levels are considered in the planning of sports programs. In conducting the various phases of sports programs, principles must guide action. These principles should be based on the latest and soundest knowledge regarding

1. Growth and development factors
2. Motor learning
3. Social and individual maturation and adjustment
4. The values of sports participation as recognized in our culture.

Elementary Schools (grades 1-6)

We believe in planned, comprehensive, and balanced programs of physical education for every girl in the elementary program. These should provide experiences in basic movements—for example, skip-

ping and simple dance steps, bending, reaching, and climbing–and in a wide variety of activities which require basic sport skills such as catching, throwing, batting, and kicking.

We believe that intramural sports experiences in appropriately modified sports activities should supplement an instructional program for girls in grades 4, 5, and 6, and that in most cases these experiences will be sufficiently stimulating and competitive for the highly skilled girl. We believe extramural sports activities, if included in the upper elementary grades, should be limited to occasional play days (sports groups or teams composed of representatives from several schools or units), sports days, and invitational events.

Secondary Schools (grades 7-12)

We believe that in secondary schools a program of intramural and extramural participation should be arranged to augment a sound and comprehensive instructional program in physical education for all girls. Extramural programs should not be organized until there are broad instructional and intramural programs and a sufficient allotment of time, facilities, and personnel for new programs.

Colleges and Universities

We believe that college and university instructional programs should go beyond those activities usually included in the high school program. There should be opportunities to explore and develop skills in a variety of activities, with emphasis on individual sports.* It is desirable that opportunities for extramural experiences beyond the intramural program be accessible to the highly skilled young women who wish these opportunities.

Forms of Competition

Intramural competition is sports competition in which all participants are identified with the same school, community center, club, organization, institution, or industry, or are residents of a designated small neighborhood or community.

Extramural competition is a plan of sports competition in which participants from two or more schools, community centers, clubs, organizations, institutions, industries, or neighborhoods compete. The forms of extramural competition include

1. Sports days–school or sports group participates as a unit
2. Telegraphic meets–results are compared by wire or mail
3. Invitational events–symposiums, games, or matches to which a school or sports group invites one or more teams or individuals to participate.
4. Interscholastic, intercollegiate, or interagency programs–groups which are trained and coached play a series of scheduled games

and/or tournaments with like teams from other schools, cities, or organizations.

International Competition involves players from different nations and provides sports experiences for individuals or groups with exceptional ability and emotional maturity. This type of competition under some conditions could include secondary school girls, but usually it is planned for more mature participants.

Corecreational activities are designed to give boys and girls opportunities to participate on the same team against a team of like composition, provided the activities do not involve body contact. The basis for formation of teams should be to promote good team play. We believe that girls should be prohibited from participating (1) on a boys intercollegiate or interscholastic team; (2) against a boys intercollegiate or interscholastic team; and (3) against a boy in a scheduled intercollegiate or interscholastic contest.

ADMINISTRATION

We believe that certain *safeguards* should be provided to protect the health and well-being of participants. Adequate health and insurance protection should be secured by the institution. First aid services and emergency medical care should be available during all scheduled interscholastic sports events. Qualified professional leaders should ensure a proper period for conditioning of players, a safe environment including equipment and facilities, a schedule with a limited number of games, and similar measures.

We believe that sports *officiating* should be the responsibility of those who know and use DGWS approved rules. Officials should hold current ratings in those sports in which ratings are given.

We believe that the entire *financing* of girls and women's sports programs should be included in the total school budget. It is suggested that income be handled as a regular school income item.

We believe that the *scheduling* of sports activities for girls and women should be in accordance with their needs and that their schedule should not be required to conform to a league schedule established for boys and men's sports.

We believe that excellence of achievement should be given *recognition* and that the intrinsic values which accrue from the pursuit of excellence are of primary importance. We believe that, when awards are given, they should be inexpensive tokens of a symbolic type, such as ribbons, letters, and small pins.

We believe that expert teaching and quality programs generate their own best *public relations*. It is suggested that an effective plan be developed for interpreting the values of the sports program to parents, teachers in other fields, and interested members of the

school or college community, including the press. A procedure which has proved successful is to invite key groups to a selection of demonstrations and sports events at different levels, so that they may see effective programs in action.

LEADERSHIP

We believe that good leadership is essential to the desirable conduct of the sports program. The qualified leader meets the standards set by the profession, including an understanding of (1) the place and purpose of sports in education, (2) the growth and development of children and youth, (3) the effects of exercise on the human organism, (4) first aid and accident prevention, (5) understanding of specific skills, and (6) sound teaching methods. Personal experience in organized extramural competition is desirable for the young woman planning to become a leader or teacher of women's sports. The leader should demonstrate personal integrity and a primary concern for the welfare of the participant.

POLICY-MAKING

And finally, we believe that all leaders, teachers, and coaches of girls and women's sports should be encouraged to take an active part in the policy decisions which affect planning, organizing, and conducting sports programs for girls and women. Leaders should make sure that qualified women are appointed to the governing sports bodies at all levels–local, state, national, and international–to ensure that programs are in the best interest of those who participate.

STANDARDS IN SPORTS FOR GIRLS AND WOMEN

Standards in sports activities for girls and women should be based upon the following:

1. Sports activities for girls and women should be taught, coached, and officiated by qualified women whenever and wherever possible.
2. Programs should provide every girl with a wide variety of activities.
3. The results of competition should be judged in terms of *benefits to the participants* rather than by the winning of championships or the athletic or commercial advantage to schools or organizations.

Health and Safety Standards for Players

Careful supervision of the health of all players must be provided by

1. An examination by a qualified physician
2. Written permission by a qualified physician after serious illness or injury
3. Removal of players when they are injured or overfatigued or show signs of emotional instability
4. A healthful, safe, and sanitary environment for sports activity
5. Limitations of competition to a geographical area which will permit players to return at reasonable hours; provision of safe transportation.

General Policies

1. Select the members of all teams so that they play against those of approximately the same ability and maturity.
2. Arrange the schedule of games and practices so as not to place demands on the team or player which would jeopardize the educational objectives of the comprehensive sports program.
3. Discourage any girl from practicing with, or playing with, a team for more than one group while competing in that sport during the same sport season.
4. Promote social events in connection with all forms of competition.

SOURCES OF INFORMATION AND SERVICE

The various services are offered by committees. All requests for information of services should be addressed to the chairman of the committee into whose field of work the inquiry falls. Inquiries which cannot be readily classified should be addressed to the DGWS vice-president.

AUDIOVISUAL COMMITTEE–Reviews films, advises on production, provides lists of up-to-date films available for rental or purchase.
Chairman: JEAN PUTNAM, Central Washington State College, Ellensburg 98926

ASSOCIATION FOR INTERCOLLEGIATE ATHLETICS FOR WOMEN–Sponsors national tournaments and establishes procedures for regional development and for sanctioning intercollegiate events.
President: CAROLE OGLESBY, Purdue Univ., W. LaFayette, Ind. 47907

DIVISION HISTORIAN–Maintains file of historical records and publications which are available on loan.
Historian: HAZEL PETERSON, Univ. of Idaho, Moscow 83483

LIAISON–Maintains relationships with allied national sports organizations.
Chairman: MILDRED BARNES, Central Missouri State College, Warrensburg 64093

NATIONAL INTRAMURAL SPORTS COUNCIL–A joint council of DGWS and DMA to provide leadership to initiate and to improve intramural programs at all educational levels.
Chairman: GERALD GREGORY, Highland School, Skokie, Ill. 60076

OFFICIATING SERVICES AREA–Tests and rates women officials; directs policies of local boards.
Chairman: ELSIE COBB, North Texas State Univ., Denton 76203 (1972-73)

PHILOSOPHY AND STANDARDS AREA–States and interprets standards for girls and women's sports.
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PUBLICATIONS COMMITTEE–Solicits, receives, edits, and publishes special publications and produces sports technique charts.
Chairman: NANCY DAVIS, Skidmore College, Saratoga Springs, N.Y. 12866

RESEARCH COMMITTEE–Carries out special studies, advises on research problems, edits DGWS research articles.
Chairman: DOROTHY HARRIS, Pennsylvania State Univ., University Park 16802

SPORTS GUIDES AND OFFICIAL RULES COMMITTEE– Revises and interprets official rules, edits and publishes sports guides and technique charts.
Chairman: JANICE PEARCE, Utah State Univ., Logan, 84231

STATE CHAIRMEN–Each chairman organizes committees for educational and informational work within her state. See list in current DGWS *Basketball Guide.*

STUDENT SPORTS ORGANIZATIONS–Organizational and program service to GAA's and WAA's maintained through NGAA Project and CWS.
Consultant: BETTY FLINCHUM, AAHPER, 1201 Sixteenth St., N.W., Washington, D.C. 20036

Publications

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SPECIAL PUBLICATIONS–see inside back cover.

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1972-73

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[1] Present *Guide* material prepared by the 1970-72 Committee. Material for the 1974-1976 *Guide* to be prepared by 1972-1974 Committee.

EDITORIAL COMMENT

I take this opportunity to express my sincere appreciation and thanks to the Archery Committee for its outstanding assistance and support in putting together this edition of the *Guide*.

The Archery Committee has attempted to develop a series of articles that will be helpful to teachers, regardless of their level of instruction. All the articles are directed towards the improvement of instruction; they range from suggested daily plays, to games, to advanced activities in shooting, to the making and repair of tackle.

The Archery Committee of 1970-1972 hopes you find this edition informative and helpful. We extend best wishes to Jacqueline Shick, the next *Guide* chairman.

MARGARET L. DRISCOLL
Chairman, 1970-1972

A Basic Archery Course for High School or College

SUSAN E. HICKS

Susan E. Hicks teaches physical education at Adirondack Community College, Glens Falls, N.Y. She graduated from East Stroudsburg State College, East Stroudsburg, Pa., working on a Master of Arts degree in physical education at the University of Northern Colorado. She holds two national instructor certificates and is a staff member of Teela-Wooket Archery Camp.

The following outline for a basic high school or college archery course is designed to give students the opportunity to develop some expertise in target and field shooting. In addition to these basics, it is vital that all students be given the opportunity to learn other forms of recreational archery such as clout and archery golf. If the course must be short, inclusion of at leas one novelty form is recommended to add to the student's overall experience and enjoyment of this wonderful sport.

This material is introduced in outline form in weekly units, with approximately two hours class time per week.

I. First Week
   - A. First Hour – Introduction to Archery
     1. Present a brief history – ancient to modern times.
     2. Describe equipment – terminology, types, pieces necessary, accessories.
     3. Measure class for equipment – 3 x 5-inch cards to record names, previous experience, bow weight, arrow length, other information.
   - B. Second Hour – Safety and Mimetics
     1. Discuss equipment use and safety – bracing a bow, wearing arm guard and finger tab, use of whistles to regulate shooting.
     2. Give basic shooting steps – instructor clarification and possibly demonstration (by instructor or experienced student).
     3. Have class work with partners – half of class to shooting line.
        a. Have a 10 yard distance with sights pre-set.

b. Have class perform mimetics while instructor checks out students individually before they release an arrow.
c. Send other half of students to shooting line, and check before shooting is allowed.
d. Clear floor, pull arrows from target, score the hits, retrieve arrows from grass.

II. Second Week
A. First Hour – Completion of Checking Out Students for Shooting
1. Present mimeographed materials – clarification of common errors and corrections for them.
2. Explain sight adjustments – emphasize grouping of arrows before adjustment.
3. Assist students having problems with hyperextension of the elbow, shifting anchor, or string hand tension.
4. Introduce exercises to strengthen muscle groups involved in shooting (particularly back and shoulder groups).
B. Second Hour – Mirror Work – 15-yard Distance
1. Have students shoot from 10 yards.
2. Give special attention again to hyperextension of the elbow, shifting anchors, string hand tension, and shoulder of bow arm.

III. Third Week
A. First Hour – Shooting at 10 Yards
1. Begin recording and posting daily scores.
2. Make individual 3 x 5-inch cards for each student.
a. List problems and good points.
b. Make two copies – one for you, one for student.
B. Second Hour – Mirror Work – 15-yard Distance
1. Have each student shoot two to three arrows next to a mirror; reflected image makes correction of errors very clear, helps student and instructor spot errors quite easily.
2. Videotape may substitute for mirrors; replay possibility enables good form to serve as examples, while errors can be analyzed and corrected.

IV. Fourth Week
A. First Hour – Shoot 20 Yards
1. Use 18 to 24-inch targets, white center and black background.
2. Place emphasis on grouping arrows.
B. Second Hour – Shoot 20 and 15 Yards, Small Targets

V. Fifth Week
   A. First Hour – Field Archery Basics
      1. Explain pre-draw and post-draw gap.
      2. Cover these points in introduction of field archery:
         a. Note differences and similarities between target and field basics; stress the need for good form in both.
         b. Review scoring for field targets.
      3. Have students practice at 10 and 5 yards.
   B. Second Hour – Field Shooting
      1. Review field target scoring system.
      2. Shoot a modified flint round.

VI. Sixth Week
   A. First Hour – Shoot a Modified Flint Round
   B. Second Hour – Novelty Shooting
      1. Stress competition by target instead of individual.
      2. Have students shoot at balloons, animal targets, certain colors of target.

VII. Seventh Week
   A. First Hour – Clout Shooting
      1. Explain clout form, using the clout sight.
      2. Explain target area, and scoring methods.
      3. Have students shoot two to three ends.
   B. Second Hour – Clout Round
      1. Shoot and score a clout round – distances may have to be modified to fit equipment and facilities.

VIII. Eighth Week
   A. First Hour – Shoot and Score a Clout Round
   B. Second Hour – Archery Golf
      1. Explain basic rule.
      2. Discuss *safety precautions* (usual ones and those particular to the course).
      3. Describe scoring and layout of the course (par, hazards).
      4. Have students practice short "blooper" and straight shots.

IX. Ninth Week
   A. First Hour – Archery Golf
      1. Divide students into foursomes. Start each group on a different tee (six holes good course length).
      2. Use ground quivers to indicate tees and rubber balls on coat hanger stakes for the pin.
   B. Second Hour – Archery Golf – Play 6 Hole Course
      (Option: Set up class tournament by determining flights from previous scores.)

X. Tenth Week
   A. First Hour – Bowbirds
      1. Indicate techniques for shooting bowbirds.
      2. Present safety rules for shooting.
      3. Have students shoot in teams.
         a. One person on each team shoots at one time; allow only four or five students to shoot at one time.
         b. After all have shot, score aerial hits, and collect arrows.
   B. Second Hour – Bowbird Shooting

XI. Eleventh Week
   A. First Hour – Bowfishing or Written Comprehensive Test
      1. Have students bowfish indoors in pool or outdoors off docks.
      2. Review equipment needed – one bow and reel for each length arrow.
      3. Targets are waterfilled balloons.
   B. Second Hour – Bowfishing or Written Comprehensive Test
      1. Cover in written test such items as terminology, scoring, errors and corrections, novelty form basics.

XII. Rainy Day Options
   A. Films – from Archery Equipment Companies or National Organizations
      1. Have students participate in bow hunting and bowfishing.
      2. Show state, national, international tournament films.
      3. Review shooting techniques, novelties, basics (this may be inserted in the first or second week of the course if there is no means of demonstration).
   B. Archery History
      1. Describe development from early to modern times.
      2. Describe development in the United States.
      3. Review archery today – national organizations, tournaments, shooting styles, the 1972 Olympics.
   C. Equipment Care, Repair, and Purchasing
      1. Discuss basic equipment costs – what to buy for beginning target or hunting archery, what will it cost?
      2. Discuss basic equipment repairs – fletching an arrow, replacing a nock, putting serving and nocking point on string.
      3. Review the storing and caring for equipment – where and how to store equipment, expected equipment life, detecting wear.

Target Archery Tackle Nomenclature

E. LUCILE SCHNEIDER

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Following is a list of basic target archery tackle with descriptions and illustrations:

1. ARROW – The arrows are made of fiberglass or aluminum shafts with insert target points. The nocks are plastic or nylon. The fletching is made of feathers or a synthetic material.

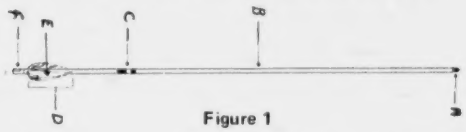


Figure 1

A. Arrow head or point
B. Shaft
C. Crest or cresting
D. Fletching
E. Index feather (Vane)
F. Nock

2. BOW – The bows are made of laminated woods and glass. The design is that of a recurve to a full working recurve bow.

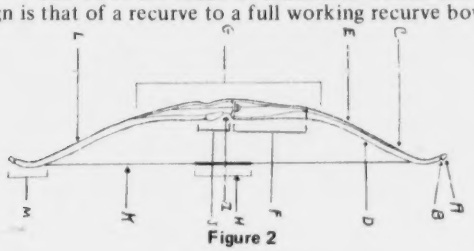


Figure 2

A. Tip
B. String notch
C. Upper limb
D. Face
E. Back
F. Sight window
G. Handle riser section
H. Serving
I. Pivot point
J. Grip
K. String
L. Lower limb
M. Recurve

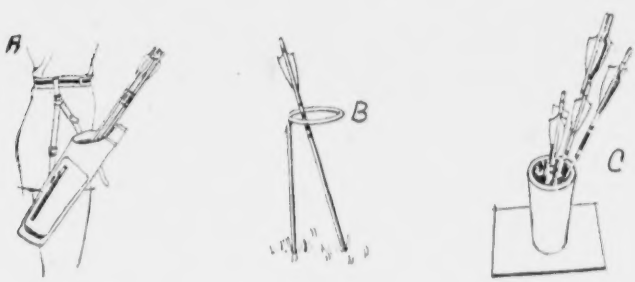
3. ARM GUARD – Arm guards are made of leather, leather with steel reinforcement, plastic, and in some cases, wood.

Figure 3

4. FINGER TAB – Finger tabs are made of leather or plastic. They are made in one or more layers of material.

Figure 4

5. QUIVERS – Quivers are made of leather, plastic, metal, pressed paper, or wood.



A. Belt quiver B. Ground quiver C. Floor quiver

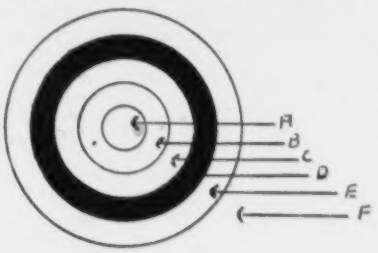
Figure 5

6. TASSELS – Tassels are made of yarn.

Figure 6

7. TARGET – The four color target is used for the majority of rounds shot in target archery. It is made of paper, heavy paper, toughenized paper, and oil cloth.

Color	Point Value
A. Gold	9
B. Red	7
C. Blue	5
D. Black	3
E. White	1



F. The petticoat – has no point value and is not to be recorded as a hit.

Figure 7

8. BOW SIGHT – Bow sights are made of plastic or metal. They have a vertical slide bar upon which is mounted a pin sight, glass lens, hooded post, or peephole.

Figure 8

9. BOWSTRINGER – The bowstringers are made of wood or synthetic materials. (The design of today's bows has made the bowstringer a basic item.)

Figure 9

10. BOW SQUARE – Bow squares are made of plastic or metal.

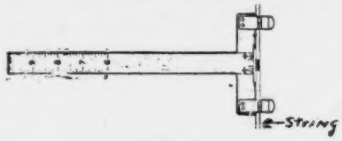
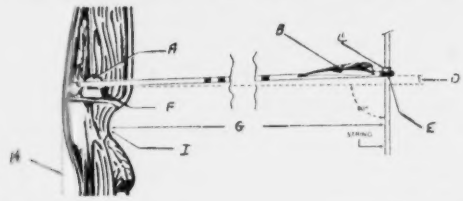


Figure 10

11. ADDITIONAL BOW AND ARROW NOMENCLATURE



A. Arrow plate
B. Index feather (vane)
C. Nock locator
D. Nocking height
E. Nocking point
F. Arrow rest
G. String (brace) height
H. Draw length and bow weight measuring point
I. Pivot point

Figure 11

Challenges for Intermediates

JACQUELINE SHICK

Jacqueline Shick received her B.S. and M.S. degrees from Drake University, Des Moines, Iowa, and her Ph.D. from the University of Minnesota, Minneapolis. She has taught archery at the junior and senior high school and college levels. She is currently assistant professor of physical education at the University of Minnesota.

Most human learning demands that the learner be motivated; that is, he must have a goal and want to achieve it. Some physical activities provide a wide variety of goals, and the teacher's task is to guide the student in selecting appropriate goals. In other activities, the potential goals are somewhat limited, and the teacher must seek to present new challenges in order to maintain student interest. Such is the case with archery. Once a student has achieved proficiency in the skill of target shooting, his interest will diminish and learning will cease unless the teacher tries new approaches and/or techniques.

If target archery is the only dimension taught, the teacher has failed to present students with an overall picture of archery. Because of the increasing popularity of field archery and the value of its techniques for bowhunting, this area of archery should be explored, at least at the intermediate level. If the class is coed, the inclusion of these techniques is even more important since many young men now find hunting with a bow and arrow more challenging than using a gun.

To understand the reasons for the variations in shooting style of the field archers, the students should know the basic differences in purpose of the two styles of archery. A target archery round consists of shooting a set number of arrows from a specified distance or distances at a standard size stationary target. Although a round in field archery also involves shooting at stationary targets, the faces of these targets range from 6 to 24 inches and the distances from which the shots are taken also vary from target to target. The archer must move to the various shooting stations and may be required to shoot from more than one position.

In the original field archery rounds, the shooting distances were unknown to the archer, making the use of bowsights impossible. Now, however, the distance for each target is known in advance and bowsights are used in free-style competition. The other competitive

Photos in this article are by Ronald Murray and Lela June Stoner. The archer is Judy Hix.

division is called bare-bow and does not permit the use of sighting devices. Therefore, most archers in this division use the gap method although some use what is commonly called the "instinctive method." This latter really involves "feeling" the position which will produce the correct direction for the path of the arrow in much the same manner one must "feel" the position which will produce the correct path for a thrown object.

Many of the basic skills are similar to both target and field archery; however, field archery does differ from target archery in the following techniques:

Stance. A wider variety of styles is found among field archers than among target archers. In general, though, the feet are kept well-apart and the trunk is inclined slightly forward from the hips (Figure 1). Some archers prefer to shift their weight somewhat toward the foot closer to the target.

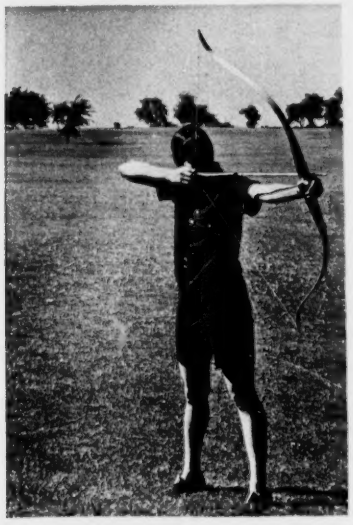


Figure 1.

In addition to standing, the archer may shoot in other positions such as kneeling and sitting (Figures 2 and 3). In these positions, also, a variety of styles is utilized.

Figure 2.

Figure 3.

Anchor. Usually the archer anchors at the side of the face with the nock end of the arrow near the corner of the mouth. The thumb rests under the angle of the jaw and the index finger fits into the hollow just below the cheekbone (Figure 4). Although the exact point of anchor may vary with the individual, it is generally high and against the side of the face. A consistent anchor is important because a full draw should be used on all shots.

Figure 4.

Position of the Head. Because of the high anchor, the head should be inclined slightly to ensure better eye alignment. In this position, the arrow will be directly under the right eye of the right-handed archer.

Position of the Bow. The upper limb of the bow is tilted slightly. For a right-handed archer, the tilt is to the right. This position of the bow serves to improve the sight-line.

Aiming. For bare-bow shooting, both eyes are kept open and are focused on the aiming spot in the center of the target. This technique is comparable to that used when throwing a ball.

For a conventional field archery round, the target face consists of only two concentric rings, a white inner ring which counts five and a black outer ring which counts three. The white circle contains a small black aiming spot in its center.

In an animal round, the aiming spot is located in a vital area of the animal.

Initially, the student should acquire proficiency in shooting at a stationary target from each of the three positions. Interest may be maintained by introducing such games as Tic Tac Toe and Around the Clock. Finally, the student should be challenged to shoot at moving targets. This could be accomplished by shooting at swinging cups and discs.

Most students will be able to master the foregoing skills, but their success will depend upon their level of motivation. Therefore, the teacher should seek to expand upon these suggestions and consistently present new challenges for intermediates.

The Damaged Arrow-A Means To Greater Archery Interest

FRANK TESKE

Frank Teske is an assistant professor of health and physical education at Virginia Polytechnic Institute and State University, Blacksburg. He holds a B.S. degree from Michigan State University, Ann Arbor, and an M.S. degree from Virginia Tech. He has done advanced graduate work at Auburn University, Auburn, Alabama, and has been teaching and coaching archery for the past eight years.

After teaching archery for several years, I decided that involving the student in the equipment might lead to greater interest. With this in mind the course content was revised to include the making of two (wood) arrows starting with the dowel or raw shaft. At this point wooden arrows were still being used for the classes.

Equipment

The original equipment used in the making of the arrows was for the most part rudimentary and inexpensive; it included a Tessier Spinemeter, an inexpensive multi-fletcher fletching jig, a homemade hand operated cresting jig, a homemade feather burner made from instructions out of *Popular Science*, Blackhawk tapering tools, and an aluminum dip tube. A softball bat was used to explain end and cross grain in the wood. Great ingenuity, particularly in the cresting of the arrows, was displayed and student interest reached a new high for all archery classes. The student-made arrows also became one of the grading factors. The original clinic area was the hallway of the physical education building.

From this beginning we have been assigned two rooms for an archery clinic and have progressed to fiberglass arrows. The equipment used in the clinic has been updated. We now have several different styles of tapering tools in addition to the Blackhawks, two Tessier Spinemeters, three Kwik-Krest motorized cresting jigs, two glass dip tubes (chemistry department made these from our design) with overflow well, two multi-fletcher fletching jigs, six Bitzenburger Dial-O-Fletch fletching jigs, one electric heat glue pot with point heaters, one point knurling machine, two young feather trimmers, as well as an Easton electric cut-off saw for use on aluminum and fiberglass shafts.

Repairs

Each week a session is held with different class members in which repair of equipment (primarily the arrow) is stressed. At these sessions each student is given an opportunity to go through the procedure of actually repairing the damaged part.

Fletching Replacement

Replacement of fletchings is generally the most frequent repair item. For this work we maintain a complete inventory of different colored left wing feathers so that we can maintain the color combinations on the arrows. The Bitzenburger fletching jig is a must for this operation because it allows us to duplicate the angle of the other fletchings. Records are kept by the color of nock, color of fletchings, and type of crest as to what the angle of the fletching should be and what part of the raw feather the fletching should come from. We try to balance the fletchings as to amount of quill or bone, degree of rigidity of the feather itself, etc.

Before replacing a fletching, the old fletching should be removed with a knife and care should be taken not to cut into the shaft material. The area should be cleaned by light sanding with 180 grit abrasive paper followed by a light cleansing with lacquer thinner. The cleaned area should not be touched. The fletching or vane should now be attached by using a jig which has the capability of adjustment to a desired angle. The clamp set should be set to the same angle as the other fletchings. Cement or glue compatible with the joints or lacquers being used should be applied in sufficient quantity along the entire length of the fletching so that it will flow out slightly on both sides when placed on the shaft. Ample drying time should be allowed; 25 minutes is the minimum. The leading edge of the fletching should then be trimmed with a sharp knife or single edge razor blade to give a smooth transition from shaft to fletching. A drop of cement is then applied to the leading and trailing edge to give additional strength as well as to reduce the effect of humid conditions on the fletching.

Nock Replacement

Replacement of nocks, unless carefully done, may affect shooting accuracy. The first step in replacing the nock should be the careful removal of the old nock. This can be done with a knife, and one must be careful not to cut into the aluminum insert on fiberglass or the swage on aluminum shafts. If difficulty is experienced in this method, gentle heat can be applied to the nock, thus facilitating removal.

The insert or swage should then be cleaned of all paint, cement, and nock fragments. This may prove to be one of the most difficult

phases of a repair operation. The first step in our operation is to take a small cloth dipped in a paint thinner and rotate the insert in the tightly gripped cloth. This will remove some of the paint and cement as well as loosen the remainder of the nock fragments. Place the nock insert in a small groove in a piece of wood (to prevent creeping), place a knife edge on the insert groove (holding the arrow at a 90 degree angle), and rotate the arrow shaft clockwise. (See Figure 1.)

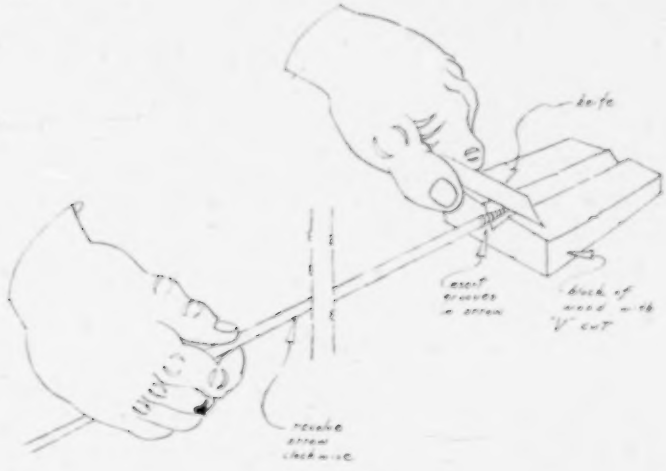


Figure 1.

This will move the knife up the insert. Then reverse the turning and this will move the knife down the insert, removing paint in the grooves.

An alternate, and probably simpler method, is to take a rinsed out aluminum soft drink can with a pop-top, place the insert in the "V" while holding the can, and insert firmly with hand and thumb. (See Figure 2.) Rotate number of turns necessary to clean grooves. Now take 180 grit abrasive and rotate the shaft while holding the abrasive tightly around insert. This will remove paint and cement from outer edges of the threads. A final step is to sprinkle a cloth with cleanser and rotate shaft while tightly gripping the insert with cloth and cleanser. Rinse with distilled water and dry with a clean cloth. Repeat the various steps as needed. In the case of wooden

arrows the nock taper should be scraped or sanded to remove all foreign material.

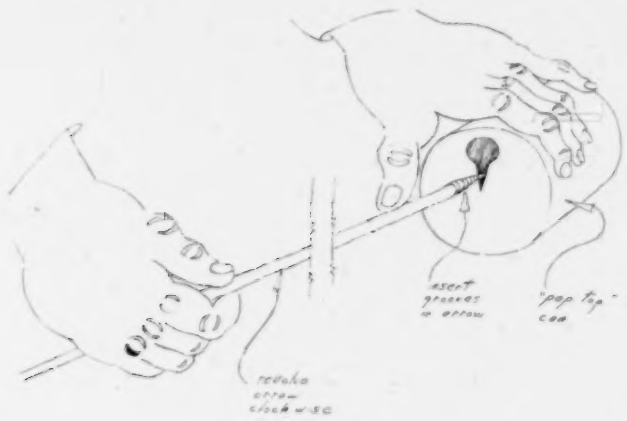


Figure 2.

The new nock should be placed on the taper and rotated several times to remove any burrs on the inside of the nock. The nock should then be removed and a small dab of high grade glue or cement should be applied to the taper. The adhesive should be spread evenly by rotating the taper on the finger tip and removing excess. This is an important point because the solvent from the excess cement or glue is trapped in the nock and in escaping can distort the nock thus causing erratic flight and no group pattern. The nock should be attached and twisted clockwise with a forward thrust until it is seated firmly. The nock then should be carefully checked for alignment by rotating in the hands or on V-blocks.

Points

Points on aluminum shafts may be removed by heating the point or end of shaft with gentle heat and gripping the point with a pair of pliers or vise and pulling while twisting the shaft. Caution: Do not overheat or the shaft will be softened and thus unusable. To install a new point to this type of shaft, heat end of shaft until it will just melt the ferule cement, putting a ring on the inside edge of the tube,

and start the point into the tube; then heat the point and coat the entire shank of the point with cement and press firmly into the tube. Wipe excess from tube.

Target points generally cannot be replaced on fiberglass shafts as they are usually installed with apoxy cement. Should the point become dull it can be sharpened on an emery wheel, but one must be careful not to overheat as heat will break down the shaft material. A fine file can also be used and usually is more satisfactory. Occasionally the point end of a fiberglass shaft is split. Under such condition the shaft is cut to the next lower arrow length which will remove the damaged section, and a new point inserted using an apoxy cement applied to the entire shank of the point which is then firmly pressed into the shaft.

Points can generally be replaced on wood shafts by heating the point and twisting off. Care should be taken to heat only the point.

Overhaul

Fairly often when we check the class arrows it appears that a complete overhaul is needed. When this occurs, we strip the arrow completely—nock, fletching, crest and paint or lacquer. After removing the fletchings and nocks as previously described, the entire shaft is soaked in lacquer thinner to remove the old lacquer and/or paint. Several dippings may be necessary. The entire shaft should be scrubbed with a cleanser (no detergents), then rinsed. One way of telling whether the shaft is completely clean is to note whether the shaft is completely wetted by the rinse water—that is, there are no breaks or beads in the rinse water film. The excess water should be shaken off and the arrow allowed to dry in a clean dry location free of dust. In the clinic we have an electric heater with a fan which we use for quick drying. One should avoid touching the shaft. Should dipping or fletching be delayed over eight hours, the last stage of the cleansing process should be repeated.

Although fletchings can be applied to the bare shaft, it is felt that a better bond is obtained by dipping the complete shaft in a clear lacquer compatible with the cement prior to fletching. Normally the only time cresting is done is when we completely rework the arrow. Here again, it is extremely important to use paints which are compatible with the lacquer. Quality brushes should be used, with the paint being applied in as few revolutions of the shaft as possible. This prevents a build up of paint and gives a better appearance. If the paint does not cover well, it is better to let the first coat dry and apply a second coat rather than risk paint build up by continuous application. After the desired crest has been obtained and dried, one should brush cover with a coat of clear lacquer for added protection of the crest.

The order we follow in making a new arrow, completely reconditioning an arrow, or repairing an individual item is as follows:

1. Select shaft.
2. Cut to length.
3. Install nock insert where applicable.
4. Install points.
5. Clean shaft.
6. Apply shaft lacquer.
7. Apply crest.
8. Apply fletching.
9. Trim fletching.

Caution items are as follows:

1. Use paints, lacquers and cements which are compatible.
2. Thoroughly clean area to which nocks, fletchings or crests are to be applied.
3. Do not use excessive cement in applying nocks, and be sure nock is put on straight.
4. Make sure you use same kind of fletching material.

The clinic is open at posted hours for those who wish to work on their own equipment at no charge except for materials used. In the future we will buy the raw materials and will make all of our own classroom arrows. Building of a string jig is now under way so that we can make and serve our own bow strings.

We have a new physical education building planned. We think one of the outstanding features is an indoor archery room with adjacent clinic for the making and repair of equipment.

We believe that student involvement in these processes has enhanced our program both in the learning process as well as in the carryover value for one of the lifetime sports.

Fun with Games

BETTY ROBISON

Betty Robison received a B.S. degree from Concordia Teachers College, River Forest, Illinois and has done post-graduate work at the University of Wisconsin, Milwaukee. She has taught archery for the recreation department of Milwaukee County.

Following are games to add sparkle to the learning of archery:

Bird Shooting

Object of Game

To shoot discs in flight.

Equipment

1. Flu flu arrows with blunt heads. Flu flu fletching consists of large untrimmed feathers glued in a tight spiral completely around the shaft. They will fly normally for 20 to 30 yards but wind resistance on the feathers will slow them down so they are easier to retrieve.

2. Six commercial bird targets or corrugated cardboard discs 12 to 16 inches in diameter made by gluing several pieces of cardboard together to a 1-inch thickness. A circle about 2 inches in diameter could be painted in the center to help in aiming.

Procedure

Two teams are lined up in single file behind a line about 10 to 15 yards away from the bird thrower, who should be to one side of the shooters and hidden from view if possible.

Figure 1.

When one member from each team is on the line with arrow nocked the instructor calls "pull." The bird thrower should throw the bird any time within 20 seconds after the call and at any elevation. The discs should be spun up by the edge so that the flat surface is toward the shooter. Three "birds" are tossed for each member to shoot at alternating turns. Each hit scores one point and team with

highest score wins. After the first two girls shoot they move to the back of their line and the next two girls prepare to shoot.

Note: The arrow should be drawn and released just as the disc reaches its highest point and pauses slightly before beginning to fall.

Tic Tac Toe

Object of Game

To break three balloons in any line.

Equipment

Cut a square piece of cardboard to fit on backstop. With adhesive tape or paint, divide the piece of cardboard into nine squares. Staple a balloon in each square to make three rows of three balloons. Attach piece of cardboard to backstop with target staples which can be made from coathangers.

Procedure

Place two teams in single file 15 to 20 yards from each target. Each team chooses a captain who will indicate which balloon each member of the team should aim for. Each girl shoots one arrow at a turn and then moves to the back of the line. The first team to break three balloons in any line wins the game.

Wand Shoot

Object of Game

To shoot at wand.

Equipment

Place a 1-inch strip of adhesive or masking tape over a target face or piece of square cardboard, from top to bottom.

Procedure

Divide class into teams with no more than 10 on a team. Each team lines up in single file 15 to 20 yards from each target. Each girl on the team shoots two arrows and then moves to the back of the line. Any arrow hitting the wand scores one point. After all girls on the team have shot, the arrows are retrieved and the points are counted for that round. The team with the highest score receives three points; team with the second highest score receives two points and team with the third highest score receives one point. After a specific number of rounds the team with the most points wins the game.

Rolling Target

Object of Game

To shoot at a moving target.

Equipment

Cut a heavy piece of cardboard the size of an old bicycle tire. Color a bullseye as large as desired in the center of the circle. Fit the cardboard circle into the tire. Use flu flu arrows or regular target arrows with rubber blunts.

Procedure

Divide class into teams with 5 to 10 on one team. Teams line up in single file behind shooting line. Instructor or assistant stands to one side and about 10 yards in front of shooters. When all the girls who are first on each team have their arrows nocked, the instructor rolls the tire across the ground in front of shooters to an assistant on the other side who catches or retrieves the tire. Each girl who is first on each team attempts to hit the target as it rolls by in front of her. If she hits the bullseye, her team receives five points; if she hits the outside circle her team receives one point. If a girl doesn't get a chance to release her arrow before the tire falls over or is knocked over by someone else's arrow she loses her chance to shoot at it on that turn and moves to the back of the line.

The assistant then prepares to roll the tire back the other way for the next girl in each line to shoot at. After all members of the team have had a turn, the team with the most points receives three points; second highest team receives two points and third highest team receives one point. Another round is then begun and after a specific number of rounds the team with the most points wins.

Pool Bow Fishing

Object of Game

To shoot at balloons in water.

Equipment

At least one commercial or homemade bow fishing reel for each team and inexpensive balloons.

Materials for Bow Fishing Reel

One two-quart size bleach bottle
One length of casting line 1 yard longer than width of pool
One roll of masking tape
Two speedy rivets
One arrow with a hole just above the tip. (A 7/64 size bit or smaller is best and an arrow without fletching will penetrate water better.)

Making Bow Fishing Reel

Draw a line around the bottle 2 inches above the bottom of the bottle. On each side of the circle draw flaps 2 inches high and 1½ inches wide above the first line.

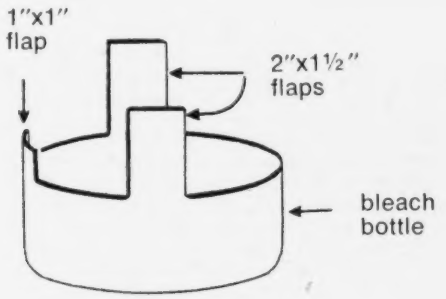


Figure 2.

Draw a flap 1 x 1 inch above the first line and on a side between the two flaps. Cut out the pattern you have drawn with scissors or single edge razor blade. Round off the corners on the 1 x 1 inch flap. Turn the 1 x 1 inch flap down over the outside of the reel. Punch two holes through the flap and the reel and insert two speedy rivets.

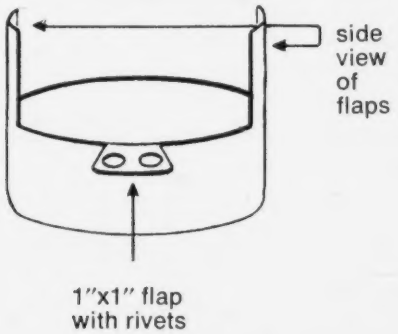


Figure 3.

Attach the reel to the back of the bow just below the handle by wrapping masking tape around the bow and the two flaps. (If the flaps are too wide for the bow, cut them to the width of the bow.)

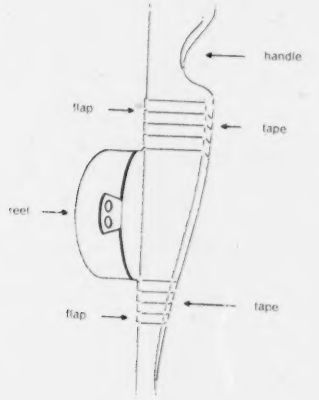


Figure 4.

Tie one end of the line securely in rivets on reel, then wind the line around the reel and leave 1 inch loose. Thread the loose end through the hole in the arrow and make 1½ loops around the arrow and tie a secure knot.

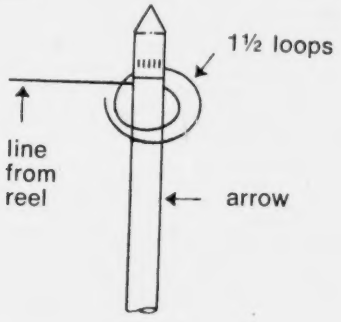


Figure 5.

To hold the line in place on the reel, insert a bobby pin in a hole on the opposite side of the rivets, and on the open side of the reel (the arrow is now ready to shoot).

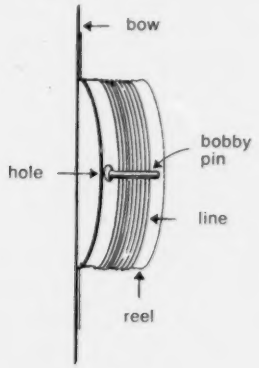


Figure 6.

Setting Up the Balloons

Fill 15 to 20 balloons with water; use air if time is short. (Use the colors of the standard target face if possible; green may be substituted for black.) To fill balloon with water, slip the end of the balloon over the faucet or hose and fill slowly. To avoid any air getting in the balloon, support the balloon underneath so it will not slip off the faucet. Fill balloon until it is about ¾ blown up, leaving about two inches of the neck available for tying the string. Tie string just above the blown up part of the balloon while it is still attached to the faucet and is supported underneath. Using this method will prevent air bubbles from forming in the balloon, so it will sink in the pool to the end of the string.

Tie strings to the balloons using the following lengths as a guide: white 3 to 6 inches, green or black 7 to 9 inches, blue 10 to 12 inches, red 13 to 18 inches, and yellow 19 to 24 inches.

Attach water-filled balloons to pool lane markers so the balloons when placed in the water will be in at least five feet of water. If you use air-filled balloons, the strings should be of uniform length. Attach the lane marker across the length of the pool just as they are used in swimming meets.

Safety Factors

The pressure of the water will not allow the arrow to hit the bottom of the pool even if shot directly downward into eight feet of water using 26 pounds of pull.

After the balloon is broken, the pieces may be gathered up with a net, otherwise they may clog the filter system of the pool.

Procedure

Divide the class into teams consisting of five to eight girls on each team. One member from each team stands about one foot back from the edge of the pool. She nocks her arrow when the instructor signals, she then gets 15 seconds to shoot at any color balloon she chooses. The arrow is then pulled out of the water, the line is rewound onto the reel and the next girl prepares to shoot. After each member of the team has attempted to shoot a balloon, one round has been completed. The points are then totaled and the results are recorded for that round. The scoring is: yellow–9, red–7, blue–5, green or black–3, and white–1. After a specific number of rounds the team with the highest score wins.

Bowbaseball
(Game developed by Roger Beck)

Object of Game

To shoot at various size whiffle balls with rubber blunts.

Materials for Outdoor Bowball Target

Three 3/8 inch x 5 feet reinforcing rods
Two 8 inch long sections of discarded garden hose
One 5 x 4 foot double burlap stitched together on three sides leaving one 5 foot side open
Three various size (baseball, junior and softball) whiffle balls with holes in one-half of the balls. These are available at most department stores.
One length of 1/8 inch nylon cord 3 feet long

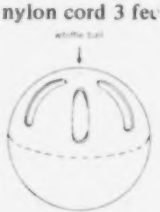


Figure 7.

Making the Outdoor Bowball Target

Place 2 rods 1 foot into the ground and 5 feet apart.

Connect the third rod to the two upright rods by using the hose as a connecting sleeve.

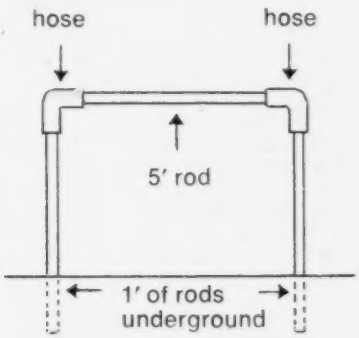


Figure 8.

Slip burlap over upright frame.

Tie the three balls to the crossbar on top by poking the nylon cord through the top of the burlap or backdrop. Space them evenly across the backdrop. The balls should then hang down directly in front of the backdrop and dangle against it.

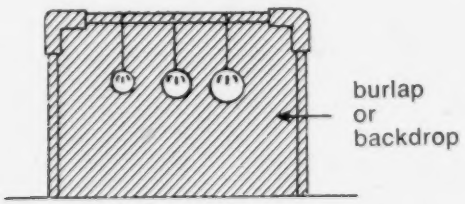
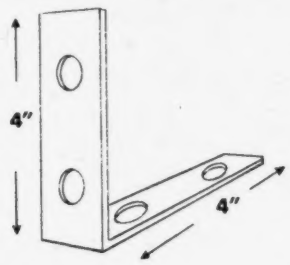


Figure 9.

Materials for Indoor Bowball Target

Two 1 inch x 4 foot conduit tubing
One 3/8 inch x 5½ foot reinforcing rod
One 6 foot x 1 foot x 1 inch plank
Four brackets or corner irons with four holes in each



brackets
or
corner irons

Figure 10.

One-handle to place on edge of plank for carrying
One-burlap backdrop, set of three whiffle balls, and nylon cord (same as for outdoor target)
Eight bolts and nuts to attach brackets to plank
Four bolts and nuts to secure conduit tubing to brackets. If possible, two of the nuts should be wing nuts.

Making the Indoor Bowball Target

Drill holes in one end of tubing to match holes in brackets.
Attach brackets to plank so the inside brackets are 5 feet apart. The outside brackets should be placed so they are 1 inch away from the inside brackets.

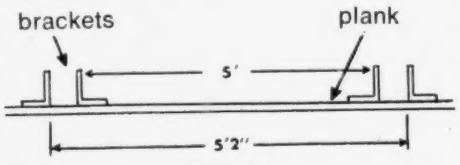


Figure 11.

Place tubing in position in brackets and insert bolts through brackets and tubing to hold the tubing in place. Secure bolts with nuts and use the wing nuts for the top bolts.

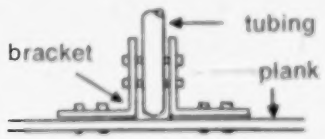


Figure 12.

Bend reinforcing rod 3 inches from each end and slip rod into open ends of tubing.

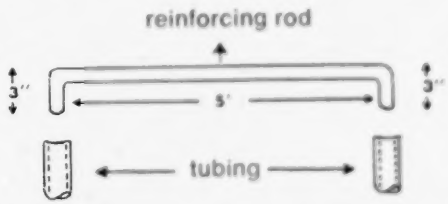


Figure 13.

Slip burlap backdrop over frame and tie the balls on crossbar just as for the outdoor target.

To collapse target pull bolt out of holes in bracket and tubing and tip tubing down across the plank.

Procedure

Divide class into two teams with 5 to 10 players on each team. Each team stands a set distance away from its target. One team is the batting or offensive team and the other team is the fielding or defensive team. Both teams shoot in a specific order.

Offense. The team up to bat begins play by the first girl designating which of the three various size balls she's going to shoot at. She gets three chances to hit that ball. If she hits it on the first attempt it is a *potential* triple; if on the second attempt it is a *potential* double; if on the third attempt it is a *potential* single. Each

miss is a strike and three strikes are an out. If the arrow is arrested in flight and held by the target ball or any shot, a home run is recorded. If the archer hits the supporting cord, she is given a ball and four such hits give the batter a base on balls.

Defense. After the first member of the offensive team has completed shooting, the first member on the defensive team then has an opportunity to make the batter out unless the batter has struck out or scored a home run or a walk. The defensive archer attempts to hit the same size ball on her target in the same number of times or less than it took the batter to do it. For example if the batter hit ball No. 3 in one shot, then the defensive archer must hit ball No. 3 on her target in one shot in order to get the batter out. If she misses then the batter has scored a triple. If it it took the batter two shots to hit ball No. 3, and the defensive player hits it on the first or second shot the batter is out, but if the defensive player misses on both shots the batter has scored a double. If it took three shots for the batter to hit ball No. 3 then the defensive archer gets three shots to hit ball No. 3 and if she hits it on any of the three shots the batter is out. If she misses all three shots the batter has then scored a single for her team.

After the offensive team has made three outs then the defensive team becomes the offensive team and the offensive team becomes the defensive team. The team scoring the most runs after a specific number of innings is the winner.

Sources of Information

Consultants for Bow Fishing Reel, Pat and Bob Skiers, instructors and professional archers.

Consultant for Bow Fishing Game, Carol Wolter, head of Girls Physical Education at Milwaukee Lutheran High School.

An Individualized Approach to Archery Instruction[1]

BONNIE NEUMAN

Bonnie Neuman is an assistant professor, Department of Physical Education for Women, at Kent State University, Kent, Ohio. She holds an instructors rating from Tecla-Wooket Archery Camp. She received her B.S. degree from Drake University, Des Moines, Iowa and a M.S. degree from the University of North Carolina at Greensboro.

Current emphasis in education is being placed upon increased student involvement in the learning process. Movement education, Bloom's three domains of learning, and group dynamics are just a few of the terms that are becoming a part of the "now generation" in physical education. The tempo of the times reflects a necessity to be relevant to student needs. In archery, what better way is there to be relevant and to increase student involvement than an individualized approach to instruction which allows the student to enter into the decision making process at her own rate to meet her own needs?

Muska Mosston[2] has identified a spectrum of teaching styles directed toward the goal of achieving an "independent, decision-making individual." Several of these styles are identified below with emphasis on archery to show the breadth of possibilities which exist for individualized instruction. It should be understood that safety factors are planned in advance of the learning situation, and that all students assume the same shooting line, shoot, and then retrieve as a group.

Teaching by Task[3]

The student is given a series of tasks and progresses from task to task as she is ready. Tasks can be arranged according to level of difficulty. A student may complete the tasks in sequence beginning

[1] Material in this article is adapted from information to be included in a text being prepared by this author and others. (Beverly Seidel, Fay Biles, Grace Figley, and Bonnie Neuman, *Sport Skills: Movement With Meaning – A Conceptual Approach to Physical Education* (Dubuque: Wm. C. Brown Co.).

[2] Muska Mosston, *Teaching Physical Education.* Columbus, Ohio: Charles E. Merrill Publishing Co., 1966.

[3] *Ibid.*, pp. 31-70.

with the first and continuing to the last or she may begin with the task appropriate to her skill level. She then focuses upon this task until ready to progress to a more challenging task.

Giving each student a written copy of the tasks allows the student to be aware of the various tasks and to record and note her progress. It also frees the instructor to move among the archers to give greater individual attention. In archery, tasks could range from achieving a certain number of hits, score, or groupings at various distances to achieving a certain rating on form. (See figure 1, for a sample task card.)

Teaching by task acknowledges that students will have varying degrees of skill and learn at varying rates. Each student is able to progress as she is ready. Thus, the fast learner is not restrained because of the slower learner; the lower skilled student is not frustrated by the higher skilled. Each student progresses according to her own capabilities.

Reciprocal Teaching[4]

In reciprocal teaching, the students work in partners. Instructions are directed to the partner who assists the archer as observer, corrector, and reinforcer.

Use of the partner arrangement provides immediate feedback for the archer. An alert partner can detect an error and help the archer to eliminate it. It is not necessary to wait until the instructor is free to observe and assist each archer. As she works with an archer observing and correcting weaknesses, the partner's own understandings of archery are enhanced.

To be successful, emphasis must be placed on the partner rather than the archer and the partner must be made aware of what to look for and how to correct common problems. The partner is given a specific focus. For example, she may concentrate on the archer's anchor position for several ends of arrows assuring that a correct, tight anchor is used prior to release. She may have to determine that the anchor is correct, or she may need to increase the archer's awareness of a flaw in performance. The instructor is then free to move among the partners giving assistance as needed to each partner who in turn helps the archer. The instructor must continually provide direction for the partner, explain, and re-explain items to observe, and comment upon the success of the partner.

As students increase in their abilities to observe and correct, the tasks given may increase in complexity. Partners may be given a series of tasks or a task card to complete. An evaluation sheet can be used to assess the archer's performance. A task card pertaining to the

[4] *Ibid.*, pp. 71-91.

TARGET ARCHERY FORM EVALUATION

Archer: _____ Evaluator: _____

Date	*Stance* Good posture	*Draw* Use of back muscles; secondary	*Anchor* Consistent; firm; index finger under chin; string bisects chin	*Release* Live release; fingers bold of tension	*Follow Through and Hold* String hand recoils; bow rocks forward and back; archer analyzes before relaxing	*Comments*

DIRECTIONS: *Use a rating scale of 1-3 to rate each item*

1 – Excellent performance
2 – Average performance
3 – Below average performance

Figure 1.

essentials in the shooting sequence can be used to focus attention on problems in performance and to note improvement (Figure 1).

The possibilities for using reciprocal instruction are many and varied. Both the archer and the partner are actively involved in the shooting sequence. The archer receives individual attention and frequent reinforcement.

Guided Discovery[5]

In guided discovery the student is given a problem to explore. The instructor provides clues to guide the student as she explores possible solutions to the problem.

Because of the nature of archery, it is essential that the problems can be solved while adhering to safety regulations. Within the limitations imposed by safety, guided discovery can be used to explore the concepts related to archery to increase the student's awareness and understanding of the "why" behind the actions she is performing. The effect of gravity on the flight of a projectile, the importance of stability as the archer prepares to shoot, the production of force to be imparted to the arrow, and the mechanics of a bow sight are just a few of the many areas which can be explored by the student with the guidance of the instructor. For the experience to be meaningful, the questions to be explored must be probing. (See Figure 2.)

Either verbal or written directions can be used to explain the problem to be explored; however, written problems allow the student to progress at her own speed. The learning experience increases in value for the student because of her active involvement. She becomes involved in applying and assessing previous knowledge. The student is free to proceed at her own pace, and satisfaction is derived as she is able to reach a solution brought about by her own efforts.

Regardless of the teaching style selected, if the individualization of instruction is foremost in the instructor's thoughts, one will become aware of many ways to enhance the learning atmosphere and to increase the student's involvement. Students can be given the freedom to select their own focus. For example, instead of all competing in a tournament, some may prefer to continue practice on individual problems or to learn a different archer event such as field archery. It is possible to have individual practice, instruction in field technique, and a tournament occurring simultaneously.

To increase the opportunity for each student to experience success, modifications can be made to provide a challenge suitable to the varying skill levels within the class. Where facilities and equipment allow, target face size and shooting distance can be varied to meet individual needs. Archery can be relevant when one concentrates on teaching the individual.

[5] *Ibid.*, pp. 143-182.

Following is a suggested worksheet:

FORCE PRODUCTION AND THE FLIGHT OF AN ARROW

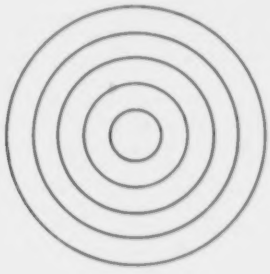
Determining the Effect that a Full Draw Has Upon the Force Imparted to an Arrow[6]

Directions: Work with a partner. Each partner should complete the items below. Be sure that you make all comments pertaining to the archer's form on the archer's worksheet. Proceed at your own rate. Devote as much time to any item as you feel is necessary. Do *not* change the position of your sight during the completion of this worksheet.

A. Shoot three arrows using correct form. Have your partner indicate below that proper shooting form was used. Refer to the characteristics listed on the previous worksheet.[7]

1. Draw_____
2. Anchor____
3. Aim_____
4. Release____
5. Hold_____

B. On the target below mark the placement of these arrows with an X.



[6] This is only a portion of a worksheet in which students explore the effect on force production of the degree of bentness of the bow and then continue to explore the effect of a secondary draw, an extended bow arm, and a bow arm follow-through upon the force produced.

[7] Previous worksheet identified characteristics to be observed in each of the steps in the shooting sequence.

C. For the next three arrows to be shot concentrate on using a *secondary draw.*

1. The tension in the back muscles is maintained until the arrow hits the target.
   a. The archer continues to use the back muscles to keep the string tight against his chin during the aiming process. Until the moment of release he feels like he is drawing the string through his chin.
   b. *Partner:* Be sure that the archer does *not* overdraw. It is essential that the string is drawn to the center of the chin and *not* overdrawn to the side of thee face.
2. The archer is in a straight line from the elbow of the string hand to the tip of the arrow.
3. A *string hand follow-through* occurs naturally following the release if a secondary draw is used. After release the string hand is relaxed and brushes the neck indicating the use of a *live release.* In a dead release the string hand remains at anchor position following the release.

D. On the target above mark the placement of these arrows with a zero (0).

Partner:

1. Did the archer use a secondary draw? _____
   a. Was the archer in a straight line from tip of arrow to elbow? _____
   b. Was the tension in the back muscles maintained through the aiming step? _____
   c. Did a string hand follow-through occur? _____
2. Did the archer use a live release or a dead release? How do you know?

E. Did the first three arrows (X) or the second three arrows (0) land higher on the target? _____

1. If correct form was used, this indicates that _____ (X arrows or 0 arrows) received the greater force.
2. Since these arrows received the greater force, it can be assumed that the bow was bent to a _____ (lesser or greater) extent when shooting these arrows.

F. If it was not possible for you to accurately complete the above, what was the source of your difficulty? What would you expect to occur if all items had been completed accurately?

Figure 2.

Archery Interest Builders

IRENE HEPBURN

Irene Hepburn received her B.S. degree in physical education from Arnold College and her M.S. degree in elementary education from State University of New York at Potsdam. She holds an instructor's rating in archery from Tella-Wooket Archery Camp, and is teaching at Colton-Pierrepont Central School in Colton, New York.

There are many ways to stimulate interest in archery. For example, does your library have any interesting and/or informative books on archery? Any magazines? How about the outdoor type magazines which might have an occasional article on bowhunting?

Has your school ever held an assembly on archery? The school assembly companies sometimes have such programs available; if not, perhaps a representative of an equipment company, a local bowhunter, or a member of an archery club might be able to put together a program for you.

If you can get the use of a display window in your school, an attractive exhibit of equipment might interest students. For instance, you might create an interesting arrangement of some of the parts of the arrow and with printed cards telling how an arrow is made; partially repaired arrows could be included. There is much that can be done in the school shop at a minimal cost in such areas as trophies, broken arrows made into bookends, and miniature target emblems.

Clout Shooting

Are you willing to try some different approaches to archery in order to gain the student's interest? Many will not be at all interested in shooting at a regulation target, so why not try something easier like clout shooting? This is a way of getting started that is very satisfying to the students because it gives them a chance to point the arrow up in the air and let fly. The equipment necessary for the range is only a stake and a piece of rope near one end of a large field. The student needs only a rubber band and a burnt wooden match in addition to the bow and arrow.

Paint colors on a piece of clothesline to correspond to the target, i.e., start at one end with 4.8 feet of gold, red, blue, black, and white. Tie one end of the rope to the bottom of the stake and a red flag at the top. Use the head of the burnt match as a bowsight, holding it on the bow below the handgrip with the rubber band.

When all have shot their arrows into the air at the stake from a distance of 100 to 120 yards, select a captain and five assistants. The captain takes the end of the painted rope and each assistant stations herself at a color. As the captain slowly walks around in a circle at the end of the rope, the assistants gather all arrows within the reach of their colors. Then each person can select her own arrows and score them according to the regulation scoring system.

Archery Golf

Archery golf can be played on an open field very successfully also. For this you need some coat-hanger wire bent to form a circle at one end and some hollow rubber balls about the size of a football. The wires hold the balls about 18 inches above the ground. Par for each "hole" can be established depending on the distance and location of the "hole" and with several "holes" set up, several groups can start at the same time so that everyone is in action at once.

Other Activities for Fun

Some other things you can do for fun include shooting at balloons mounted either on a target or at the end of a stake. There are a number of games which can be played; for example, tic tac toe can be done with the lines made of masking tape on the target face. Old worn-out balls which will no longer hold air and can't be repaired can be used for practice shooting. They can be on the ground, rolling, or thrown into the air. This will depend upon the space and facilities available.

When the students meet in class for the first time, have interesting booklets on archery ready to distribute. Go through them quickly and get as much information across to the students as possible.

And don't forget the old reliables: the bulletin board and the audiovisual material. Do you have charts showing point of aim, use of a bowsight, correct draw positions, and range layout? Do you have interesting pictures from magazines to use on the bulletin board? The use of movies, film strips, and slide shows on rainy days during the archery season may help.

Have you ever shown your class how to put a new nock or tip on an arrow, repair or replace the feathers, or make a bowstring?

An archery club might be persuaded to put on a special meeting for a special group of your students. Ask the club to talk about tournaments and show your students how to shoot.

Have you ever tried to get an archery scholarship at an archery training camp for a deserving student or for yourself and a student?

Remind your students that a person does not have to be an athlete to shoot a bow. Many people who are crippled can enjoy the sport, and in fact, in some hospitals it is used as a convalescent activity for patients unable to use their legs for awhile.

A person's age is unimportant for participation in archery. From the age of three people can shoot and the sooner they get started, the better. Be sure, though, to fit the equipment to the person.

Archery is another way of getting out-of-doors as soon as possible in the spring. It can be extended to include camping and fishing. Combining archery and fishing in bowfishing makes a great sport. Equipment is not expensive and it is a lot of fun.

And finally, remember that archery, along with tennis, badminton, bowling, golf, and swimming is a lifetime sport which can be enjoyed for under $25.00 starting cost and can lead to many interesting events.

Annotated Archery Bibliography

JACQUELINE SHICK

Books

Acker, William R.B. *Japanese Archery.* Rutland, Vt.: Charles E. Tuttle Co., 1965. $2.95. Concise, well-illustrated book shows unique methods of Japanese archery. Describes aims, techniques, and philosophical basis of its ceremony which is strongly influenced by Zen philosophy.

Armbruster, David A., Sr.; Musker, Frank F.; and Irwin, Leslie W. *Basic Skills in Sports for Men and Women.* St. Louis: C.V. Mosby Co., 1971. $5.50. Contains a chapter on archery including history, mechanics, rules, basic techniques, safety, terminology, and teaching techniques.

Athletic Institute. *Sports Techniques – Archery.* Chicago: The Institute, 1971. 75 cents. World and national archery champions demonstrate fundamental archery techniques. Glossary.

Barrett, Jean A. *Archery.* Pacific Palisades, Calif.: Goodyear Publishing Co., 1969. Pap. $1.75, cloth $4.95. Covers equipment, terms, shooting fundamentals, analysis of form, score and accuracy analysis, sports and games.

Bear, Fred. *The Archer's Bible.* Garden City, N.Y.: Doubleday Co., 1968. $1.95. Selection of equipment, techniques of target and field archery, common shooting faults and how to correct them, safety, games, and bow hunting.

Bow and Arrow Magazine. *The Archer's Digest.* Brea, Calif.: Gallant Library, 1971. $5.95. History of archery, how to choose target equipment, basics of bow hunting, building your own bow, fletching your own arrows, advanced hunting techniques, field archery, and crossbow. Glossary.

Broer, Marion R., ed. *Individual Sports for Women.* 5th ed. Philadelphia: W.B. Saunders Co., 1971. $9.50. Contains chapter on both field and target archery, including history, terms, rules, techniques, safety, suggestions for purchase and care of equipment.

Burke, Edmund. *Archery: The Complete Handbook for Beginners and Experts.* Arco, N.Y.: Arc Books, 1961. 95 cents. Techniques and improvement in style.

Campbell, Donald W. *Archery.* Englewood Cliffs, N.J.: Prentice-Hall, 1971. $1.95. Contains chapter on facilities, equipment, fundamental skills, safety precautions, tournaments, novelty shoots, history, mechanics, movement analysis, conditioning program. Glossary.

Clark, Dana E. *Physical Education–A Program of Activities.* St. Louis: C.V. Mosby Co., 1969. $4.95. Contains a chapter on

archery using a programed format; rules, terms, and techniques. Teacher's guide available.

Elott, Milan E. *Why We Miss and Other Writings.* Published by author, 5570 Fellwood Road, College Park, Ga. 30022. 1970. $2.95. Analysis of errors and corrections.

Gillelan, G. Howard. *Complete Book of the Bow and Arrow.* Harrisburg, Pa.: Stackpole Books, 1971. $9.95. History, equipment, rules, skills. Reference for field and target archery, bow hunting, and bow fishing.

Gillelan, G. Howard. *Modern ABC's of Bow and Arrow.* Harrisburg, Pa.: Stackpole Books, 1967. $4.95. Selection of equipment, fundamentals of shooting target and field archery, indoor archery and automated archery facilities, bow hunting and fishing.

Heath, E. G. *The Grey Goose Wing.* Reading, England: Sprey Publications Ltd., 1971. $20.80. A history of archery.

Keaggy, David J., Sr. *Power Archery.* 2d rev. ed. Paradise Valley, Ariz.: Power Archery Products, 1968. $1.95. Includes information on stance, bow grip, bow arm, anchor, release, sight alignment, breath control, physical conditioning, and mental discipline.

Klann, Margaret L. *Target Archery.* Reading, Mass.: Addison-Wesley Publishing Co., 1970. $3.50. Equipment, safety, techniques, common shooting problems and how to correct them, rules, and terminology.

Latham, J.D. and Paterson, W.F. *Saracen Archery.* London: Holland Press, 1970. $17.50. Basic techniques, analysis, flight shooting, and shooting from horseback.

McKinney, Wayne C. *Archery.* 2d ed. Dubuque, Iowa: W.C. Brown Co., 1971. 95 cents. Tackle, fundamentals of target archery, bow hunting and fishing, archery in literature and art.

Niemeyer, Roy K. *Beginning Archery.* Rev. ed. Belmont, Calif.: Wadsworth Publishing Co., 1967. 80 cents. Includes history, equipment, techniques, rules, and terms.

Pszczola, Lorraine. *Archery.* Philadelphia: W.B. Saunders Co., 1971. $2.25. Contains fundamentals, errors to avoid, ways to improve performance, rules, terminology, and purchase and care of equipment.

Roth, Bernhard A. *Here Is Your Hobby: Archery.* New York: G.P. Putnam's Sons, 1962. $3.63. Covers history, construction, danger, conservation laws, and techniques. Illustrated with photos. Recommended for junior high school level.

Schuyler, Keith C. *Archery from Golds to Big Game.* Cranbury, N.J.: A.S. Barnes, 1970. $12.00. Equipment, techniques, target archery, and hunting small game.

Sigler, Howard T. *Pocket Guide to Archery.* Harrisburg, Pa.: Stackpole Co., 1967. $2.95. Equipment and its care, basics of field and target shooting.

Strutt, Joseph. *The Sports and Pastimes of the People of England.* New York: Augustus M. Kelley, Publishers. $22.50. An extremely interesting chapter on the role of archery in England from 633 to 1844.

Pamphlets

Archery Skills Test Manual. Washington, D.C.: American Association for Health, Physical Education, and Recreation. 75 cents. Contains a series of skills tests with national norms for boys and girls, ages 10-18. Complete instructions for administering the tests and suggestions for their use as instructional aids.

Articles

Barber, Martha Kipp. "A 'Do-It-Yourself' Indoor-Outdoor Instructional Ground Quiver." *Journal of Health, Physical Education, Recreation* 41 (Sept. 1970), p. 67. Use of a one-pound coffee can with a plastic lid in which are punched six holes to hold the arrows. For stability, the coffee can is half-filled with coarse sand.

Carlisle, Norman. "Look What's Happened to Bows and Arrows." *Popular Mechanics* 132 (Sept. 1969), pp. 120-123. Excellent pictures of new designs for bows and arrows. Discusses materials used for bows, types of stabilizers, and changes undergone in arrows.

Cotton, Doyice. "Insuring Proper Form for Beginning Archers." *The Physical Educator* 25 (May 1968), pp. 85-86. The writer advocates starting beginning classes shooting at a distance of 35 yards as opposed to a closer range of 15 to 20 yards. He feels that this lessens the chances of poor form because the students would be more concerned with form than with score since they would not be able to hit the target from that distance. He also subscribes to the "buddy" system for developing good form.

Driscoll, Margaret L. "Archery Classes that Move." *Journal of Health, Physical Education, Recreation* 41 (Sept. 1970), pp. 66-67. Suggestions for organization of equipment to ensure the greatest amount of class time for the learning experience.

Hyman, Dorothy. "Teaching the Blind Student Archery Skills." *Journal of Health, Physical Education, Recreation* 40 (April 1969), pp. 85-86. A step-by-step description of the procedures the writer followed in teaching a blind student.

Schuyler, Keith C. "Selecting a Bow for the Target Archer." *Consumer Bulletin* 50 (June 1967), pp. 15-18. Contains specifics to be considered with regard to weight, length, cast, stability, grip,

and price. Lists some of the leading bow manufacturers in the United States, their addresses and price range of their lines.

Zabik, Roger M. and Jackson, Andrew S. "Reliability of Archery Achievement." *Research Quarterly* 40 (March 1969), pp. 254-255. Modified Chicago and Flint Rounds were found to be reliable measures to evaluate achievement of college men.

Periodicals

Archery World. Market Communications, Inc., 534 No. Broadway, Milwaukee, Wis. 53202. Published bimonthly. $3.00 per year. Official publication of the National Archery Association. Magazine for all archers from beginner to competitive shooter and bow hunter.

Bow and Arrow. Gallant Publishing Co., 130 Olinda Pl., Brea, Calif. 92621. Published bimonthly. $3.00 per year. Articles for both the beginner and expert in all aspects of archery.

Archery Visual Aids

MARIE L. SENERCHIA

Marie Senerchia holds a B.S. degree from the University of Rhode Island, Kingston. She is currently teaching at Narragansett Junior High School in Narragansett, Rhode Island. She is a Life Time Sports Archery clinician and has conducted several clinics.

Prices listed are subject to change. Numbers in parentheses refer to film distributors listed.

Beginning Archery Classes

Archery. Super 8 film loops, 3-2/3 min. ea., color, si. Sale $24.95 ea. (6). Set of four loops covering basic skills; nock, anchor, release; aiming (pre-gap method); aiming (sight method).

Archery. Color, sd. Sale $12 series (13). Series of 22 slides covering equipment, nomenclature, and shooting techniques.

Archery–an Introduction. 16 mm, 18 min., sd. Rental $5. (4). New instructive film for all age groups.

Archery for Beginners. 16 mm, 12 min., b&w., si. Rental $3.50. (10). Demonstrates the techniques employed in stance, nocking, aiming, the draw, etc. Presents a graphic study of fingers and arm action with closeup shots. Made under the direction of DGWS.

Archery for Girls. 16 mm, 11 min., b&w., sd. Rental $3. (10, 12). With expert archers demonstrating, students learn fundamental techniques of shooting, proper stance, nocking the arrow, the aim, and the release. Stresses relaxation and practice. Excellent for beginners and advanced students.

Archery Fundamentals. 16 mm. 10 min., b&w, color, sd. Rental–b&w $2.50, color $5. (3, 5, 10, 11, 12). Cover parts of equipment, recurve bows, three anchor points, steps of shooting, point of aim, bow sight, and field archery. Good first film.

Archery Instruction and Safety. 16 mm, 10 min., color, sd. Rental $3.65, sale $120. (1, 12). Describes necessary equipment, parts of bow and arrow, bracing the bow, stance, draw, release, etc. Includes safety precautions.

Archery with Larry Hughes. 16 mm, 8 min., b&w., si. Rental $1. (10). Instructive and interesting demonstration of proper bow and arrow technique. Endorsed by AAHPER.

The Art of Archery. 16 mm, 12½ min., color., sd. Rental $5. (8). Complete and interesting step-by-step instructions on techniques used in shooting by both the instinctive method and the use of sighting aids. Includes slow motion sequences of the more important phases.

Beginning Archery. 35 mm, 12 min. ea., color, sd., si. Rental–sd. $1.50, sale $42.50, si. $36.75. (3). This filmstrip contains four teaching units which cover aiming, scoring, and shooting rules.

Introduction to Field Archery. 16 mm, 12 min., color, sd. Rental $4.50, sale $140. (1, 12). Promotional film showing family of four being introduced to field archery. Film creates interest for archer who has never participated in the sport.

Straight as an Arrow. 16 mm, 20 min., color, sd. Rental $5, sale $150 (7). Film shows all phases of archery plus some technical shots in slow motion showing why the spine of the arrow must match the bow.

Women's Archery. Super 8 film loops, 3½ min. ea., color, si. Sale $18.95 ea., $54 series. (2). Series of three film loops covering basic skills; stance, nocking through the arrow; draw, aim, hold: release and follow through.

Advanced Classes or End of Unit

Bows and Arrows. 16 mm, 10 min., b&w, sd. Rental $4.50. (9, 10). Bow and arrow lesson by five-time champion Russ Hoogerhyde. Includes game call "roving." The skill of the archer is matched against a golfer.

1965 FITA World Championship of Archery. 16 mm, 15 min., color, sd. Rental $5, sale $150 (7). Film shows the world's top tournament held in Vesteras, Sweden.

1969 FITA 25th World Archery Championship. 16 mm, 20 min., color, sd. Rental $5, sale $150 (7). Complete coverage of the 25th World Championships held in Valley Forge, Pa.

Motivational Films

ABC-Polar Bear and Mule Deer. 16 mm, 25 min., color, sd. Rental $10. (8). Fred Bear hunts great ice bear and searches for record class mule deer in the rugged mountains of the Jicarillo Apache Indian reservation near Dulce, New Mexico. Cannot be used for TV or paid audience showing.

American Sportsman-Canadian Grizzly Hunt. 16 mm, 16 min., color, sd. Rental $5. (8). Locale is the wilderness area of north central British Columbia where the grizzly bear reigns supreme. Hunting suspense at its best as Fred Bear stalks a 650-pound bear. Cannot be used for TV or paid audience showing.

Archery in the Arctic. 16 mm, 18 min. Rental $5. (4). Ben Pearson bags record class bears.

Arrow for a Grizzly. 16 mm, 12½ min., color, sd. Rental $5. (8). Story of a pack train expedition through the vast wilderness of the Yukon territory and of what happens when a daring bowman meets a truculent grizzly.

Back Country Bowhunt. 16 mm, 25 min., color, sd. Rental $10. (8). The action is fast and furious as the party of bow hunters pursues a variety of big game. The film is further enhanced by fine sequences of fly fishing for magnificent rainbow trout in waters never before fished by white men.

Badlands Bucks. 16 mm, 12½ min., color, sd. Rental $5. (8). A bow hunt for the huge mule deer in the breaks along the Missouri River in North Dakota. The unusual landscapes and short-range glimpses of much smaller animal life enhance the exciting action of the hunt.

Bowfishing Fun. 16 mm, 12½ min., color, sd. Rental $5. (8). An introduction to one of America's fastest growing off-season sports—shooting fish with bow and arrow. Action takes place in the vast marshes of Lake Erie in Michigan. Special equipment and techniques are shown in detail, as are many thrilling battles with "harpooned" carp up to 30 pounds in weight.

Bowhunter's Safari. 16 mm, 12½ min., color, sd. Rental $5. (8). Detailed glimpses of safari life and a visit to the Belgian Congo where the white hunter meets the forest pygmies in an archery contest enliven the story of Fred Bear in Africa stalking the swift antelope species inhabiting the veldt.

B'Wana Bowman. 16 mm, 12½ min., color, sd. Rental $5. (8). Film record of William Negley's safari to the Belgian Congo in an attempt to shoot a full grown African elephant to win a bet of $10,000! A terrific climax that will have even the most blasé viewers on the edge of their seats.

Devils of the Desert. 16 mm, 13½ min. Rental $5. (4). Hunting Javelina in Arizona.

Fins, Feathers and Fur. 16 mm, 25 min., color, sd. Rental $10. (8). A fast-paced film of off-season sports available to the adventurous bowman. This film portrays the lure and lore of archery in an interesting way to audiences of all ages.

Grubstake Bowhunt. 16 mm, 12½ min., color, sd. Rental $5. (8). Bow hunting in the Little Delta country of Alaska's interior.

Hunting the Hard Way. 16 mm, b&w, sd. Rental $5. (9). Howard Hill takes his bow and arrow to the Rockies to hunt the deadly mountain lion.

Kaibab Bucks. 16 mm, 12½ min., color, sd. Rental $5. (8). An absorbing account of the first bow and arrow season in Arizona's Kaibab Forest.

Kodiak Country. 16 mm, 25 min., color, sd. Rental $10. (8). The sweep and majesty of Alaska's coastal wilderness are displayed in this hunt for the huge Kodiak bear. Witness one of the most thrilling hunting scenes ever photographed as a bowman faces a thousand-pound bear across 20 feet of open beach.

The Man Killers. 16 mm, 20 min., color, sd. Rental $5. (8). Unarmed, except for bow and arrow, Howard Hill spears barracuda, sharks, and alligators off Key Largo, Florida.

Mozambique Game Trails. 16 mm, 25 min., color, sd. Rental $10. (8). Fred Bear stalks the great Kudu, nyala, impala, warthog, waterbull, and finally a huge bull elephant in Portuguese East Africa. The bowman maneuvers his way through a tremendous herd of these great beasts, finally closing to within 40 yards of the trophy he came half way around the world to find.

North to Adventure. 16 mm, 30 min., color, sd. Rental $10. (8). Setting is the rugged mountains, forested valleys, and open tundra of northern British Colombia. A party of bowmen on horseback hunt giant moose, white mountain goats, nomadic caribou, ptarmigan, and sheep ram.

The Oldest Game. 16 mm, 20 min., color, sd. Rental $10. (8). Pursuit of the Whitetail deer. Hunting from blinds and stalking are both employed, with fine bucks resulting from both methods. Interesting.

Prairie Pronghorn. 16 mm, 12½ min., color, sd. Rental $5. (8). Shows archers stalking the fleet, keen-eyed antelope through the sparsest of cover.

Record Book Bowhunting—Alaskan Style. 16 mm, 15 min. Rental $5. (4). See how Jim Dougherty takes record class big game with bow and arrow.

Ringneck Hunt in Kentucky. 16 mm, 10 min. Rental $5. (4). Pheasant hunting with Ben Pearson.

Shooting Ducks with Bow and Arrow. 16 mm, 7½ min. Rental $5. (4). Ben Pearson shoots ducks above treetop height.

Trophy Elk. 16 mm, 12½ min., color, sd. Rental $5. (8). Film shows scenes of field archery and the bow hunter's method of preparing for the hunt. Interesting scenes of camp life are interspersed with the quest for elk.

Year of the Buffalo. 16 mm, 25 min., color, sd. Rental $10. (8). Fred Bear returns to Portuguese East Africa to stalk the wily and unpredictable Cape Buffalo, rated by experienced hunters as one of the most dangerous beasts of the African bush.

Film Distributors

1. Harold C. Ambrosch Productions, Box 3, Rancho Mirago, Calif. 92270.
2. The Athletic Institute, 805 Merchandise Mart, Chicago, Ill. 60654.
3. Bailey-Film Associates, 11559 Santa Monica Blvd., Los Angeles, Calif. 90025.
4. Ben Pearson Film Library, 421 N. Altadena Dr., Pasadena, Calif. 91107.

5. Boston University Krasker Memorial Film Library, 765 Commonwealth Ave., Boston, Mass. 02215.
6. Ealing Film Loops, 2225 Massachusetts Ave., Cambridge, Mass. 02140.
7. Easton Aluminum, 7800 Haskell Ave., Van Nuys, Calif. 91406.
8. Grayling Film Service, RR1, Grayling, Mich. 49738.
9. Roa's Films, 1696 N. Astor St., Milwaukee, Wis. 53202.
10. Shick Film Service, 6157 Yarmouth Ave., Reseda, Calif. 91335.
11. University of Connecticut Audio-Visual Center, Storrs, Conn. 06268.
12. University of Illinois Visual Aid Services, Champaign, Ill. 61820.
13. J. Weston Walch, Publisher, Portland, Maine 04104.

Archery Golf

Archery golf is an interesting and challenging activity combining certain characteristics of golf with flight and field shooting in archery. At the present time, there are no NAA rules, but Myrtle K. Miller, director of the Teela-Wooket Archery Camp, has submitted the set of rules used there for many years. They are adaptable to any locality or situation depending on the facilities available.

Object of the game is to put an arrow through each of six 9-inch targets in the least possible number of shots.

Each group shall select a captain to make decisions and to record scores *after* leaving *each* green.

Only *one* bow may be used unless it is broken, in which case the shot may be taken over with another bow without penalty. The same applies to a broken bowstring.

Arrows of any kind may be used.

Each shot counts *one*, also each penalty.

The stand for a field shot, which may be a flight or approach shot, must be directly behind the point of landing of the previous shot.

The archer with the lowest score on each target shoots first on the next tee shot.

After the tee shot the archer farthest from the target shoots first. *Do not advance until the shot is completed.*

Full draw is not required. The bow may be held in any position.

An arrow in an unplayable position may be shot from a point at equal or greater distance from the target, with a penalty of one point added.

A lost arrow, if not found in five minutes, may be replaced by another which is shot from a spot agreed upon by the group, with a penalty of one point added.

A shot may be conceded, with one point added to the score, if an arrow lands near enough to the target so that the archer can make the point of his nocked arrow touch the target. The feet must remain in their stance behind the spot where the point of the previously shot arrow landed.

The target may be turned to face the archer shooting.

"Fast" is the term used if it is necessary to signal anyone on the course.

In case of a tie, there shall be a play-off.

Bows and arrows can be dangerous. Avoid any possible danger to archers and all others on or about the course.

Take the tee shot only after achers have left the green ahead of you.

Proceed only after everyone in the group has shot his arrow.

DGWS Intercollegiate Archery

Postal Tournaments of 1970 and 1971

Compiled by BARBARA WILKE

Women's Team Results

Class	*First*	*Second*	*Third*
A	Arizona State	San Bernardino V.C.	San Bernardino V.C.
B	Stetson University	Barnard College	Stetson University
C	Drexel University	Stephen F. Austin State University	Brooklyn College
D	University of Toronto	University of Toronto	Bethany Nazarene

Men's Team Results

A	Mt. San Antonio College	San Bernardino V.C.	Humboldt State
B	Stetson University	Arizona State	Humboldt State
C	State University College, Buffalo, New York	Humboldt State	State University College, Buffalo, New York
D	Bethany Nazarene	Texas Christian University	San Diego State

Mixed Team Results

A	Arizona State	Glassboro State	Humboldt State
B	Arizona State	San Diego State	San Diego State
C	Humboldt State	Humboldt State	Atlantic Community College
D	Texas Christian University	University of Toronto	Bethany Nazarene

1970 High Individual Scores

Class	*Name*	*School*	*Score*
A–Women	Donna Wesson	Arizona State University	634
Men	Randy Iverson	Mt. San Antonio College	644
Mixed	Steve Mendez	Humboldt State College	594
B–Women	Nancy Kravit	Barnard College	502
Men	Jim Gilbert	Stetson University	540
	Dennis Wipper	Stetson University	540
Mixed	Cassie Kuss	San Diego State College	486
C–Women	Frani Hess	Drexel University	540
Men	Danny Place	State University College Buffalo, New York	522
Mixed	Jack Grooms	Humboldt State College	512
D–Women	Sue Young	University of Toronto	518
Men	Dave Eastman	Bethany Nazarene College	538
Mixed	Rick Garnett	Texas Christian University	518

1970 Colleges Registered

1. Alfred University
   Alfred, New York
2. Arizona State University
   Tempe, Arizona
3. Atlantic Community College
   Mays Landing, New Jersey
4. Barnard College
   New York, New York
5. Bethany Nazarene College
   Bethany, Oklahoma
6. Brooklyn College
   Brooklyn, New York
7. Central State College
   Edmond, Oklahoma
8. Drexel University
   Philadelphia, Pennsylvania
9. Glassboro State College
   Glassboro, New Jersey
10. Graceland College
    Lamoni, Iowa
11. Humboldt State College
    Arcata, California

*12. Louisiana State University
    Baton Rouge, Louisiana

13. Mississippi State College for Women
    Columbus, Mississippi
14. Mt. San Antonio College
    Walnut, California
15. Pasadena City College
    Pasadena, California

*16. Salem State College
    Salem, Massachusetts

17. San Bernardino Valley College
    San Bernardino, California
18. San Diego State College
    San Diego, California
19. State University College of New York at Buffalo
    Buffalo, New York
20. Stephen F. Austin State University
    Nacogdoches, Texas
21. Stetson University
    Deland, Florida
22. Texas Christian University
    Fort Worth, Texas
23. University of California at Berkeley
    Berkeley, California
24. University of Toronto
    Toronto, Ontario, Canada

*No scores received

1971 Team Results

Women's Division

Class	*Place*	*Institution*	*Total Golds*	*Team Scores*
A	1	Arizona State University	233	2470
	2	San Bernardino Valley College	210	2422
	3	San Bernardino Valley College	142	2210
B	1	Barnard College	136	1930
	2	San Diego State College	105	1808
	3	Barnard College	83	1709
C	1	Brooklyn College	210	2096
	2	Drexel University	169	2002
	3	Stephen F. Austin State University	167	2002
D	1	University of Toronto	196	2076
	2	University of Toronto	138	1982
	3	University of Toronto	86	1644

Men's Division

A	1	Arizona State University	245	2504
	2	San Bernardino Valley College	234	2484
	3	Atlantic Community College	228	2474
B	1	Chabot College	160	1972
	2	San Diego State College	141	1927
	3	Stetson University	144	1922

C	1	Chabot College	187	2052
	2	Arizona State University	149	1956
	3	University of North Carolina at Greensboro	122	1936
D	1	Mt. San Antonio College	183	2036
	2	Bethany Nazarene College	112	1834
	3	Chabot College	121	1824

Mixed Division

Class	*Place*	*Institution*	*Total Golds*	*Team Scores*
A	1	Humboldt State College	211	2406
	2	Stetson University	186	2368
	3	Madison College	104	2346
B	1	University of North Carolina at Greensboro	98	1769
	2	San Diego State College	92	1759
	3	Arizona State University	73	1732
C	1	Rockford College	219	2118
	2	University of Pennsylvania	190	2041
	3	Cumberland County Community College	163	1963
D	1	Texas Christian University	163	1960
	2	Bethany Nazarene College	140	1940
	3	York University	118	1810

HIGH INDIVIDUAL SCORES

1971 High Individual Scores

Class	*Division*	*Name*	*Institution*	*Score*
A	Women	Carol Jurn	Arizona State University	634
	Men	Steve Lieberman	Arizona State University	640
	Mixed	Greg Mason	Humboldt State College	648
B	Women	Mary Goetz	Barnard College	506
	Men	Michael Stratman	Chabot College	540
	Mixed	Simon Friedman	San Diego State College	464
C	Women	Sharon Goldman	Brooklyn College	528
	Men	Bill Hassett	Chabot College	526
	Mixed	Tom Strand	Rockford College	538
D	Women	Kit Koehler	University of Toronto	538
	Men	Leon Magub	Mt. San Antonio College	520
	Mixed	Rick Garnett	Texas Christian University	532

Placement of All Teams

CLASS A Women's Teams

Place	*Institution*	*Total Golds*	*Team Scores*
1	Arizona State University	233	2470
2	San Bernardino Valley College	210	2422
3	San Bernardino Valley College	142	2210
4	Mt. San Antonio College	124	2134
5	Madison College	–	1810
6	San Diego State College	24	1403

CLASS A Men's Teams

1	Arizona State University	245	2504
2	San Bernardino Valley College	234	2484
3	Atlantic Community College	228	2474
4	Brigham Young University	217	2422
5	San Bernardino Valley College	180	2331
6	Mt. San Antonio College	158	2246
7	San Bernardino Valley College	156	2176
8	San Bernardino Valley College	101	2051
9	Madison College	34	1953
10	Humboldt State College	69	1698
11	San Diego State College	67	1597

CLASS A Mixed Teams

1	Humboldt State College	211	2406
2	Stetson University	186	2368
3	Madison College	104	2346
4	Arizona State University	147	2238
5	Brigham Young University	115	2102
6	Humboldt State College	121	2077
7	Stetson University	114	2026
8	Pasadena City College	90	1853
9	Pasadena City College	67	1672
10	Pasadena City College	59	1545

CLASS B Women's Teams

Place	*Institution*	*Total Golds*	*Team Scores*
1	Barnard College	136	1930
2	San Diego State College	105	1808
3	Barnard College	83	1709
4	San Diego State College	67	1667
5	Mississippi State College for Women	49	1582
6	Stetson University	51	1459
7	Mississippi State College for Women	41	1443
8	Mississippi State College for Women	37	1407
9	Mississippi State College for Women	31	1371
10	Mississippi State College for Women	30	1348
11	Golden West College	36	1331
12	Mississippi State College for Women	27	1308
13	Golden West College	21	937

CLASS B Men's Teams

1	Chabot College	160	1972
2	San Diego State College	141	1927
3	Stetson University	144	1922
4	Arizona State University	129	1908
5	Stetson University	112	1826
6	San Diego State College	92	1804
7	San Diego State College	101	1775
8	San Diego State College	83	1736
9	Stetson University	88	1711

10	Humboldt State College	70	1677
11	Golden West College	62	1647
12	Humboldt State College	43	1442
13	Golden West College	27	1352
14	Humboldt State College	40	1255

CLASS B Mixed Teams

1	University of North Carolina at Greensboro	98	1769
2	San Diego State College	92	1769
3	Arizona State University	73	1732
4	University of North Carolina at Greensboro	69	1656
5	Golden West College	38	1465
6	Golden West College	23	1045

CLASS C Women's Teams

Place	*Institution*	*Total Golds*	*Team Scores*
1	Brooklyn College	210	2096
2	Drexel University	169	2002
3	Stephen F. Austin State University	167	2002
4	Brooklyn College	150	1954
5	Arizona State University	115	1910
6	University of North Carolina at Greensboro	94	1842
7	Drexel University	106	1793
8	University of North Carolina at Greensboro	67	1712
9	University of North Carolina at Greensboro	64	1670
*10	Mississippi State College for Women	69	1618
*11	University of North Carolina at Greensboro	55	1613

12	Mississippi State College for Women	32	1387
13	Mississippi State College for Women	33	1313
14	Drexel University	47	1255
15	Mississippi State College for Women	31	1241
16	Mt. San Antonio College	26	1120

CLASS C Men's Teams

1	Chabot College	187	2052
2	Arizona State University	149	1956
3	University of North Carolina at Greensboro	122	1936
4	Mt. San Antonio College	111	1854
5	University of North Carolina at Greensboro	—	1802

CLASS C Mixed Teams

1	Rockford College	219	2118
2	University of Pennsylvania	190	2041
3	Cumberland County Community College	163	1963
4	Rockford College	143	1958
5	Drexel University	139	1937
6	Humboldt State College	145	1932
7	Humboldt State College	123	1834
8	Humboldt State College	89	1744
9	Humboldt State College	80	1656

CLASS D Women's Teams

Place	*Institution*	*Total Golds*	*Team Scores*
1	University of Toronto	196	2076
2	University of Toronto	138	1982
3	University of Toronto	86	1644
4	Bethany Nazarene College	71	1596
5	Mt. San Antonio College	62	1477
6	Northwest Missouri State College	47	1362

CLASS D Men's Teams

1	Mt. San Antonio College	183	2036
2	Bethany Nazarene College	112	1834
3	Chabot College	121	1824
4	Texas Christian University	96	1798
5	Northwest Missouri State College	52	1517

CLASS D Mixed Teams

1	Texas Christian University	163	1960
2	Bethany Nazarene College	140	1940
3	York University	118	1810
4	Texas Christian University	56	1387

CLASS A Women

Participant	*Institution*	*Perfect Ends*	*Golds*	*Score*
1. Carol Jurn	Arizona State University	7	66	634
2. Carrie Tamarin	Arizona State University	4	61	626
3. Cathie Pipitone	San Bernardino Valley College	2	60	624
4. Donna Wesson	Arizona State University	3	55	614
5. Linda Wilson	San Bernardino Valley College	3	53	604
6. Donna Dennington	San Bernardino Valley College	3	49	602
7. Betty Jean Bryant	Arizona State University	3	51	596
8. Barbara Luly	San Bernardino Valley College	2	48	592
9. Claudia Rankin	Mt. San Antonio College	3	42	580
10. Janice Smith	San Bernardino Valley College	1	42	570
11. Gay Clark	San Bernardino Valley College	0	36	558
12. Janet Hudson	Mt. San Antonio College	1	35	556
13. Becky Carmichael	San Bernardino Valley College	0	30	556
14. Sue Vincke	Madison College	–	–	548
15. Darrylin Partin	Mt. San Antonio College	0	27	544
16. Denise Heiman	San Bernardino Valley College	2	34	526
17. Pamela Stith	Mt. San Antonio College	0	20	454
18. Bonnie Lindjord	Madison College	–	–	436
19. Dianna Gray	Madison College	–	–	416
20. Wanda Pyne	Madison College	–	–	410
21. Nancy Blankman	San Diego State College	0	7	386
22. Sharon Cook	San Diego State College	0	6	372
23. Joanne Ring	San Diego State College	0	8	341
24. Nancy Bowen	San Diego State College	0	3	304

CLASS A Men

1.	Steve Lieberman	Arizona State University	8	68	640
2.	Gene Hasegawa	Arizona State University	8	68	638
3.	Roy Broderick	Brigham Young University	8	65	634
4.	Don Rabska	San Bernardino Valley College	6	63	630
5.	Steve McBrearty	Atlantic Community College	4	60	624
6.	John Littell	San Bernardino Valley College	3	60	624
7.	Tom Wood	Atlantic Community College	3	58	620
8.	Paul Schone	San Bernardino Valley College	5	57	618
9.	Santos Sautos	Atlantic Community College	5	56	618
10.	Greg Wright	Brigham Young University	4	57	616
11.	Bob Taliaferro	Arizona State University	6	55	614
12.	Charles Bockhorn	Atlantic Community College	2	54	612
	Carl Rolff	Arizona State University	2	54	612
13.	Mark Gross	San Bernardino Valley College	0	54	612
14.	Mark Plott	San Bernardino Valley College	2	53	608
15.	Dan Smith	Brigham Young University	1	52	604
16.	Larry Rieger	Mt. San Antonio College	2	59	592
17.	John Galarza	San Bernardino Valley College	2	45	577
18.	Terry Williams	San Bernardino Valley College	1	44	574
19.	Ray Hughes	San Bernardino Valley College	2	39	572
20.	Doug Schultz	San Bernardino Valley College	0	38	572
21.	Mitchell Chase	San Bernardino Valley College	0	37	570
22.	Frank Stevens	Brigham Young University	2	43	568
23.	Larry Witteck	San Bernardino Valley College	0	43	568
24.	Lamont Gingrich	Mt. San Antonio College	0	39	566
25.	Alan Paton	San Bernardino Valley College	1	37	566
26.	Richard Rice	Mt. San Antonio College	0	37	564
27.	Terry Montgomery	San Bernardino Valley College	0	34	552

28.	James Taylor	Madison College	–	34	544
29.	Bob Ruff	San Diego State College	0	33	541
30.	Bob Willis	San Bernardino Valley College	0	27	536
31.	Elliott Helm	San Bernardino Valley College	0	29	534
32.	Roger Butler	Mt. San Antonio College	0	33	524
33.	Paul Crenshaw	Madison College	–	–	506
34.	Jess Dunnagan	Humboldt State College	0	27	500
35.	Sandy Wiseman	Madison College	–	–	473
36.	Harolde Duchi	Humboldt State College	0	25	460
37.	Ben Wah	San Diego State College	0	17	447
38.	Walter Davis	Madison College	–	–	430
39.	John Smith	San Bernardino Valley College	0	11	429
40.	Ross Coleman	Humboldt State College	0	6	389
41.	Sam Besser	San Diego State College	0	12	356
42.	Don Troudy	Humboldt State College	0	11	349
43.	Tom Tanton	San Diego State College	0	5	253

CLASS A Mixed

1.	Greg Mason	Humboldt State College	12	72	648
2.	Mike Annala	Humboldt State College	7	64	632
3.	Perry Coy	Humboldt State College	7	61	624
4.	Bob Ryder	Madison College	5	58	620
5.	Guy Kinney	Stetson University	3	56	614
6.	Ray Merrill	Stetson University	3	53	604
7.	Lisa Howard	Madison College	1	–	598
8.	Bryan Daniels	Madison College	2	46	596
9.	Ann Osborn	Stetson University	2	47	592
10.	Chris Zehrbach	Arizona State University	3	44	582
11.	Norma Smallbone	Humboldt State College	3	43	576

12.	Jay Kinney	Stetson University	1	46	571
13.	Steve Black	Brigham Young University	0	38	566
14.	Harry Feverwerker	Arizona State University	0	35	562
15.	Rob Lindhurst	Pasadena City College	0	36	560
16.	Sharon Peper	Stetson University	0	30	558
17.	Al Wills	Stetson University	1	33	556
18.	Chris Ward	Madison College	–	–	552
19.	Ellsworth Gozhorn	Pasadena City College	1	34	550
20.	Lonnie Hurst	Arizona State University	1	33	550
21.	Sarah Calderwood	Humboldt State College	0	32	550
22.	Bruce Barney	Brigham Young University	1	33	548
23.	Diane Yuschik	Arizona State University	0	35	544
24.	Thomas Williams	Humboldt State College	0	25	518
25.	Michael Cooper	Pasadena City College	0	25	516
26.	Deborah Dalton	Brigham Young University	0	28	512
27.	Kathy Glassco	Humboldt State College	0	21	486
28.	Lauren Peterson	Brigham Young University	0	16	486
29.	Lorraine Nunez	Stetson University	0	23	472
30.	Christopher Nunnery	Pasadena City College	0	19	470
31.	Kevin O'Hagan	Pasadena City College	0	17	458
32.	Toni Baldwin	Humboldt State College	0	14	449
33.	Jon Maeda	Pasadena City College	0	20	441
34.	Betty Smith	Stetson University	0	12	427
35.	Cynthia Metcalf	Pasadena City College	0	11	387
36.	Nancy Steuck	Pasadena City College	0	9	356
37.	Becky Bennett	Pasadena City College	0	12	353
38.	Nancy Telian	Pasadena City College	0	11	333
39.	Donna Matsumota	Pasadena City College	0	9	324
40.	Christine Olson	Pasadena City College	0	13	322

CLASS B Women

Participant	*Institution*	*Perfect Ends*	*Golds*	*Score*
1. Mary Goetz	Barnard College	1	43	506
2. Nancy Kravit	Barnard College	1	31	492
3. Elyse Glaser	Barnard College	2	34	480
4. Cheryl Boguivitz	San Diego State University	0	29	464
5. Mary Farrington	San Diego State University	0	23	454
6. Marilyn Singer	Barnard College	0	28	452
7. Nancy Ross	San Diego State University	0	25	452
8. Elizabeth Richards	Mississippi State College for Women	0	18	441
9. Mary Juhasz	Barnard College	0	22	440
10. Cheryl Lenz	San Diego State University	0	28	438
11. Nancy Pierson	Barnard College	0	23	438
12. Deborah Thompson	Barnard College	0	23	433
13. Karen Peterson	San Diego State University	0	16	420
14. Beth Trottier	San Diego State University	0	17	418
15. Lisa Buchner	San Diego State University	0	16	415
16. Leslie Krushot	San Diego State University	0	18	414
17. Judy Courtney	Miss. State College for Women	0	12	399
18. Carroll Savage	Barnard College	0	15	398
19. Jeannie Davis	Miss. State College for Women	0	15	378
20. Tammie Williams	Stetson University	0	17	369
21. Mary Joe Repasky	Stetson University	0	13	368
22. Nancy Shannon	Stetson University	0	11	364
23. Emily Williams	Miss. State College for Women	0	4	364
24. Karen Hall	Miss. State College for Women	0	13	363
25. Margaret Watkins	Miss. State College for Women	0	10	361
26. Josephine Coco	Miss. State College for Women	0	10	360
27. Julia Mauldin	Miss. State College for Women	0	8	359

28.	Linda Bredin	Stetson University	0	10	358
29.	Deborah Selby	Miss. State College for Women	0	13	354
30.	Lynn Johnson	Miss. State College for Women	0	10	354
31.	Mary Louise Sanders	Miss. State College for Women	0	8	353
32.	Terry Vance	Golden West College	0	6	348
33.	Betty Alexander	Miss. State College for Women	0	6	346
34.	Martha Taylor	Miss. State College for Women	0	12	344
35.	Amanda Williams	Miss. State College for Women	0	7	344
36.	Mary Watts	Miss. State College for Women	0	4	342
37.	Kathy Mayers	Miss. State College for Women	0	8	341
38.	Cynthia Shakleford	Miss. State College for Women	0	7	339
39.	Marilyn Bernardini	Golden West College	0	12	338
40.	Jeannie Danis	Miss. State College for Women	0	9	337
41.	Susan Raynor	Miss. State College for Women	0	9	336
42.	Ruth Taylor	Miss. State College for Women	0	5	336
43.	Becky Woodward	Miss. State College for Women	0	7	333
44.	Karen Ormerod	Golden West College	0	10	332
45.	Marilyn Massey	Miss. State College for Women	0	7	332
46.	Barbara Syzmanski	Miss. State College for Women	0	6	323
47.	Cheryl Owen	Miss. State College for Women	0	7	320
48.	Ann Sternitzke	Golden West College	0	8	313
49.	Peggy Bachlor	Golden West College	0	8	279
50.	Maryann Conway	Golden West College	0	3	230
51.	Lee Anne Johns	Golden West College	0	8	227
52.	Chris Nash	Golden West College	0	2	201

CLASS B Men

1.	Michael Stratman	Chabot College	10	60	540
2.	Mel Perry	San Diego State College	2	45	508

3.	Mike Haynes	Arizona State University	1	45	506
4.	Tom Hill	Stetson University	1	45	504
5.	Ed Vanderlann	Arizona State University	3	40	500
6.	Jeff Camba	Chabot College	1	42	498
7.	Ed Torn	Chabot College	0	37	490
8.	Jim Murphy	Stetson University	1	32	480
9.	Charlie DeLong	San Diego State College	1	35	479
10.	Bob Clark	San Diego State College	1	33	476
11.	Luke Codere	Stetson University	0	33	470
12.	Alan Norvell	Stetson University	1	34	468
13.	Eric Kolber	Stetson University	0	30	468
14.	Jere Groover	Stetson University	0	29	464
15.	Andrew Frebinger	San Diego State College	0	28	464
16.	Mike Fuller	San Diego State College	0	25	456
17.	James Marinakis	Arizona State College	0	23	456
18.	Bob Clark	San Diego State College	1	33	453
19.	Dana Van Horn	San Diego State College	0	27	452
20.	John Sewdon	Stetson University	0	27	448
21.	DeWayne Tannheimer	San Diego State College	0	24	448
22.	Jerry Robledo	San Diego State College	0	16	448
23.	Gary Myers	Stetson University	0	26	446
24.	Jim Miller	Arizona State University	0	21	446
25.	Bruce Hamilton	San Diego State College	0	18	446
26.	Steve Rossi	Chabot College	0	21	444
27.	Link Powars	Stetson University	0	23	440
28.	Mike Elledge	Humboldt State College	0	19	440
29.	Jeff Carr	San Diego State College	0	29	438
30.	Bob Ford	San Diego State College	0	22	438
31.	David East	San Diego State College	0	21	438

32. Mike Hasson	San Diego State College	0	21	436
33. Roy Mann	Humboldt State College	0	20	436
34. Frank Johns	San Diego State College	0	20	432
35. Richard Page	San Diego State COllege	0	20	430
36. Jim Siler	Humboldt State College	0	19	426
37. Mike Grishko	Steston University	0	24	425
38. Art Green	Stetson University	0	20	424
39. Darryl Harmon	Stetson University	0	21	422
40. Ed Parker	Golden West College	0	19	414
41. Jeff St. Clair	Golden West College	0	12	414
42. Curt Leslie	Golden West College	0	14	411
43. Jim Bowen	Golden West College	0	14	408
44. Dennis Fore	Humboldt State College	0	12	375
45. Milton Phegley	Humboldt State College	0	14	374
46. Tom Dreiling	Golden West College	0	8	374
47. Paul Schneider	Humboldt State College	0	12	361
48. Ray Harris	Golden West College	0	10	355
49. Mark Barstead	Humboldt State College	0	8	353
50. Gary Hand	Humboldt State College	0	9	352
51. Tom Nielsen	Humboldt State College	0	12	325
52. Ken Wittenberg	Humboldt State College	0	10	318
53. Ed Andrade	Golden West College	0	3	313
54. Kevin McCormack	Humboldt State College	0	9	312
55. Dave Kanase	Golden West College	0	6	310
56. Vance Geisinger	Humboldt State College	0	9	300

CLASS B Mixed

Participant	*Institution*	*Perfect Ends*	*Golds*	*Score*
1. Simon Friedman	San Diego State College	0	28	464
2. Rector Rendon	San Diego State College	1	25	458
3. Juanita McIver	University of North Carolina	0	29	456
4. Bruce Thomas	University of North Carolina	0	25	450
5. Janice Draughn	University of North Carolina	0	24	441
6. Steve Ogan	Arizona State University	0	22	440
7. Arlene Troup	Arizona State University	0	14	440
8. Mary Lance	University of North Carolina	0	20	439
9. Floyd Ingram	Arizona State University	0	22	432
10. Leatha McGowan	San Diego State College	0	22	425
11. David Sisk	University of North Carolina	0	20	422
12. Sandy Harrison	San Diego State College	0	17	422
13. Kathy Borlman	Arizona State University	0	15	420
14. Eleanor Lathan	University of North Carolina	0	17	419
15. Jim Lancaster	University of North Carolina	0	17	401
16. Danny Hartman	University of North Carolina	0	15	397
17. Patti Giffin	Golden West College	0	13	390
18. Mary McFarland	Golden West College	0	9	371
19. Mike McDougle	Golden West College	0	6	370
20. Bill Blaty	Golden West College	0	10	334
21. Ruth Pemberton	Golden West College	0	5	293
22. Jo Zappen	Golden West College	0	9	278
23. Phil Maas	Golden West College	0	4	245
24. Jack Kelch	Golden West College	0	5	229

CLASS C Women

1.	Sharon Goldman	Brooklyn College	5	54	528
2.	Natalie Siracusa	Brooklyn College	4	54	528
3.	Barbara Cohen	Brooklyn College	3	53	526
4.	Charyl Palsha	Stephen F. Austin State Univ.	4	50	520
5.	Chris Sekula	Drexel University	4	49	516
6.	Carmen Frezza	Brooklyn College	1	49	514
7.	Kathy Chestnut	Drexel University	3	46	510
8.	Karen Koon	Stephen F. Austin State Univ.	2	44	506
9.	Jerri Ryan	Brooklyn College	0	43	506
10.	Carol Powers	Brooklyn College	2	44	502
11.	Joy Firedved	Drexel University	2	42	498
12.	Babetta Gwinn	Stephen F. Austin State Univ.	1	37	490
13.	Susan Thomas	Arizona State University	1	35	490
14.	Martha Barney	University of North Carolina	0	30	488
15.	Lin Deupree	Stephen F. Austin State Univ.	0	36	486
16.	Mary Trophy	Arizona State University	1	34	486
17.	Barb Feltman	Drexel University	2	32	478
18.	Sandy Unger	Brooklyn College	1	31	474
19.	Susan Taylor	Arizona State University	0	34	472
20.	Susan Eiserberg	Brooklyn College	0	32	472
21.	Linda Fomenko	Drexel University	1	32	469
22.	Judy Erger	Drexel University	2	30	462
23.	Susan Liles	University of North Carolina	0	27	462
24.	Carol Boyd	Arizona State University	0	12	462
25.	Vickie McDaniel	University of North Carolina	0	20	454
26.	Deborah Glisson	Miss. State College for Women	0	20	443
27.	Debbie Gatlin	University of North Carolina	0	17	438
28.	Nancy Johnson	Drexel University	0	24	436

29.	Cindy Johnson	University of North Carolina	0	18	436
30.	Conway Clementson	University of North Carolina	0	17	428
31.	Sue Williams	University of North Carolina	0	16	428
32.	Helen Leeder	Drexel University	0	20	426
33.	Linda Shearin	University of North Carolina	0	18	420
34.	Fran Rogers	University of North Carolina	0	16	420
35.	Sandy Barham	University of Nnrth Carolina	0	14	420
36.	Cathy Frazier	University of North Carolina	0	17	415
37.	Judy Corriher	University of North Carolina	0	15	415
	Denese Gornto	University of North Carolina	0	15	415
38.	Martha Maupin	Miss. State College for Women	0	15	406
39.	Jayne Lucas	Drexel University	0	20	404
40.	Margarette Evans	University of North Carolina	0	14	403
41.	Kathy Flint	Miss. State College for Women	0	16	402
42.	Kathy Dollyhigh	University of North Carolina	0	14	401
43.	Becky Fisher	University of North Carolina	0	12	394
44.	Catherine West	Miss. State College for Women	0	18	367
45.	Mary Inge	Miss. State College for Women	0	10	351
46.	Dee Mathis	Miss. State College for Women	0	11	350
47.	Kay Ferguson	Miss. State College for Women	0	6	344
48.	Mary Watts	Miss. State College for Women	0	15	342
49.	Kathy Mayers	Miss. State College for Women	0	8	341
50.	Janet Dindrscia	Drexel University	0	10	338
51.	Marjorie O'Rourke	Miss. State College for Women	0	9	329
52.	Gail Spruill	Miss. State College for Women	0	6	327
53.	Glenda Parker	Miss. State College for Women	0	10	326
54.	Kathleen Atkins	Miss. State College for Women	0	8	315
55.	Ellen Montgomery	Miss. State College for Women	0	12	312
56.	Sandra Buck	Mt. San Antonio College	0	7	312

57. Janeece Garrick	Miss. State College for Women	0	5	309
58. Joyce Taylor	Miss. State College for Women	0	6	305
59. Stephie DeMarco	Drexel University	0	12	292
60. Linda James	Mt. San Antonio College	0	8	271
61. Sharon Simpson	Mt. San Antonio College	0	7	270
62. Becky Quintana	Mt. San Antonio College	0	4	267
63. Dorothy Edwards	Drexel University	0	5	221

CLASS C Men

Participant	*Institution*	*Perfect Ends*	*Golds*	*Score*
1. Bill Hassett	Chabot College	5	53	526
2. Art Albro	Chabot College	3	52	524
3. Mark McGovern	Chabot College	1	44	506
4. Bill Falletta	Arizona State University	1	42	496
5. Bob Olmstead	Chabot College	1	38	496
6. Don Cook	Arizona State University	0	38	496
7. John Hemphill	University of North Carolina	0	34	490
8. Dan Hamilton	Arizona State University	0	36	488
9. Hal Wright	University of North Carolina	0	30	484
10. Gary Jarrett	University of North Carolina	0	30	482
11. James Fuller	University of North Carolina	0	28	480
12. Dennis Navarre	Mt. San Antonio College	0	32	478
13. Orville Multine	Arizona State University	0	33	476
14. Mike Bart	Mt. San Antonio College	0	29	468
15. Ralph McComb	Mt. San Antonio College	0	28	460
16. Donald Hurwitz	University of North Carolina	0	24	458

17.	Mike Kirkman	University of North Carolina	0	22	450
18.	Bill Goldston	University of North Carolina	0	23	448
19.	Dennis Hostetler	Mt. San Antonio College	0	22	448
20.	Mike Carpenter	University of North Carolina	0	22	446

CLASS C Mixed

1.	Cathy Buch	University of Pennsylvania	9	59	538
	Tom Strand	Rockford College	9	59	538
2.	Paula Heikinnen	University of Pennsylvania	8	58	536
3.	Bob Evans	Cumberland County College	7	57	534
4.	Ken Hartle	Humboldt State College	6	55	530
	Jim Maillet	Cumberland County College	6	55	530
5.	Tom Kalata	Rockford College	5	54	528
6.	Kathy Carlson	Rockford College	4	54	528
7.	Virginia Johanson	Rockford College	4	52	524
8.	Roger Salover	Rockford College	2	43	506
9.	Roger Howard	Humboldt State College	0	43	502
10.	Mike Sekula	Drexel University	1	41	502
11.	Nancy Powers	Rockford College	0	32	500
12.	Steve Shearer	Humboldt State College	0	40	498
13.	William Dicke	Humboldt State College	2	40	492
14.	Devon Howard	Humboldt State College	0	35	490
15.	Bill Theis	University of Pennsylvania	1	35	484
16.	Ted Lada	Drexel University	0	34	484
17.	Alan Rudolph	University of Pennsylvania	1	38	483
18.	Andres Serrano	Rockford College	0	33	478
	Rachelle Bandarsky	Drexel University	0	33	478
19.	Barbara Hookstadt	Rockford College	0	35	474
20.	Debbie Seaton	Drexel University	0	31	473

21. Pat Coulston	Humboldt State College	0	30	468
22. Tom Mattox	Humboldt State College	1	31	463
23. Pat Foster	Humboldt State College	0	28	462
24. Pat Bergamo	Cumberland County College	0	27	460
25. Hal Hyles	Humboldt State College	0	24	460
26. Sandy Karageanes	Cumberland County College	0	24	439
27. Jackie Deike	Humboldt State College	0	19	438
28. Laura Schnell	Humboldt State College	0	22	428
29. Chris Rose	Humboldt State College	0	21	416
30. Margaret Collins	Humboldt State College	0	19	412
31. Joyce Phillips	Humboldt State College	0	5	374
32. Shirley Pontoni	Humboldt State College	0	13	372
33. Ruby Walthall	Humboldt State College	0	12	361

CLASS D Women

1. Kit Koehler	University of Toronto	9	59	538
2. Anne Chalmers	University of Toronto	2	51	522
3. Kathy Warburton	University of Toronto	2	45	508
4. Sue Young	University of Toronto	4	41	508
5. Cheryl Ke	University of Toronto	2	42	502
6. Anne Sherwood	University of Toronto	1	41	500
7. Chris Grant	University of Toronto	0	21	496
8. Glenda Deigan	University of Toronto	0	34	484
9. Rebecca Herring	Mt. San Antonio College	1	29	462
10. Jane Dean	University of Toronto	0	24	446
11. Angelika Kahrkling	University of Toronto	0	21	426
12. Anne M. Johnson	University of Toronto	0	21	412
13. Debbie McClung	Bethany Nazarene College	0	16	411
14. Carol Uncapher	Northwest Missouri State College	0	15	411

15. Anita Lucas	Bethany Nazarene College	0	20	409
16. Janice Perrin	University of Toronto	0	18	400
17. Bev Harrison	Bethany Nazarene College	0	17	396
18. Kay Ligman	Bethany Nazarene College	0	18	380
19. Caryn Bernhardt	Mt. San Antonio College	0	9	376
20. Jane Fiore	Mt. San Antonio College	0	16	370
21. Janet Babb	Northwest Missouri State College	0	13	351
22. Nancy Barrett	Northwest Missouri State College	0	14	328
23. Leslie Smith	Northwest Missouri State College	0	5	272
24. Irene Lynch	Mt. San Antonio College	0	8	269

CLASS D Men

Participant	*Institution*	*Perfect Ends*	*Golds*	*Score*
1. Leon Magub	Mt. San Antonio College	3	49	520
2. Michael Grace	Chabot College	2	47	512
Craig Schmuck	Mt. San Antonio College	2	47	512
3. Richard Feddersohn	Mt. San Antonio College	1	44	504
4. Robert Navarro	Mt. San Antonio College	1	43	500
5. Danny Spears	Bethany Nazarene College	0	31	480
6. Len Lowry	Texas Christian University	0	31	464
7. Ben Wells	Bethany Nazarene College	0	32	462
8. Richard Abbas	Chabot College	0	31	462
9. James Schuknecht	Chabot College	0	25	454
10. Kent Dryach	Texas Christian University	0	24	450
11. Don Sides	Bethany Nazarene College	0	23	448
12. Ted Robinson	Texas Christian University	0	22	446
13. James Larcom	Bethany Nazarene College	0	26	444

14.	Doyle Damman	Northwest Missouri State College	0	19	438
	Mark Swegle	Texas Christian University	0	19	438
15.	Michael Harris	Chabot College	0	18	396
16.	Jerry Hill	Northwest Missouri State College	0	14	384
17.	Mitchell Baker	Northwest Missouri State College	0	8	367
18.	Don Hill	Northwest Missouri State College	0	11	338

CLASS D Mixed

1.	Rick Garnett	Texas Christian University	7	56	532
2.	Cam Lucas	Bethany Nazarene College	6	56	532
3.	Dick Barclay	York University	1	49	514
4.	Bill Koster	Texas Christian University	1	38	494
5.	Pierre Millette	York University	1	39	490
6.	Barbara Morian	Texas Christian University	2	38	490
7.	E. Ray Stinson	Bethany Nazarene College	1	34	472
8.	Marlita Haviland	Bethany Nazarene College	0	27	472
9.	Yvonne Warnock	Bethany Nazarene College	0	23	464
10.	Ellen Alston	York University	0	23	448
11.	Jill Schroeder	Texas Christian University	0	31	444
12.	Elizabeth Bearer	Texas Christian University	0	17	379
13.	Ken Miller	Texas Christian University	0	17	370
14.	Gaye McKenzie	York University	0	7	358
15.	Christopher Curtis	Texas Christian University	0	11	320
16.	Mary Helen Franke	Texas Christian University	0	11	318

1971 Colleges Registered

1. Arizona State University
   Tempe, Arizona 85281
2. Atlantic Community College
   Mays Landing, New Jersey
   08330
3. Barnard College
   Columbia University
   New York 10027
4. Bethany Nazarene College
   Bethany, Oklahoma 73008
5. Brigham Young University
   Provo, Utah 84601
6. Brooklyn College
   Brooklyn, New York
   11210
*7. Central State University
   Edmund, Oklahoma
   73034
8. Chabot College
   Hayward, California
   94545
9. Cumberland County
   College, Vineland,
   New Jersey 08360
10. Drexel University
    Philadelphia,
    Penna. 19104
11. Golden West College
    Huntington Beach,
    Calif. 92647
*12. Graceland College
    Lamoni, Iowa 50140
13. Humboldt State College
    Arcata, California 95521
14. Madison College
    Harrisonburg, Virginia
    22801
15. Mississippi State College
    for Women
    Columbus, Miss. 39701
16. Mt. San Antonio College
    Walnut, Calif. 91789
17. Northwest Missouri
    State College
    Maryville, Missouri 64468
18. Pasadena City College
    Pasadena, Calif. 91106
19. Rockford College
    Rockford, Illinois 61101
20. San Bernardino Valley
    College
    San Bernardino, Calif.
    92403
21. San Diego State College
    San Diego, Calif. 92115
*22. State University College
    of New York at Buffalo
    Buffalo, New York 14222
23. Stephen F. Austin State
    University
    Nacogdoches, Texas 75961
24. Stetson University
    Deland, Florida 32720
25. Texas Christian University
    Fort Worth, Texas 76129
26. University of North
    Carolina at Greensboro
    Greensboro, N. C. 27412
27. University of Pennsylvania
    Philadelphia, Pa. 19104
28. University of Toronto
    Toronto 181,
    Ontario, Canada
29. York University
    Downsview 463,
    Ontario, Canada

*No scores received

ANNOUNCEMENT –
1972 AND 1973
INTERCOLLEGIATE ARCHERY POSTAL TOURNAMENTS

The Postal Tournament, sponsored by the Archery Subcommittee of the DGWS, is designed to provide opportunity for competition between those colleges and universities which have indoor ranges or outdoor climate suitable for winter shooting.

Several classifications are provided so that competition can be adjusted to meet limitations in available time, space, or number of archers. A school may enter *any number of the classifications listed below. (An archer may enter but one class.)*

Teams are composed of four archers. A school may enter teams of 4 men, 4 women or 2 men and 2 women.

Class A – Official Columbia Round – 48" target
Class B – 60 arrows at 30 yards – 48" target
Class C – 60 arrows at 20 yards – 48" target
Class D – Miniature Round – 60 arrows at 15 yards – 24" target

This meet will be held November 1 through December 15. The registration fee for one to ten teams from one school is $2.00. For each additional ten teams the fee is $2.00. Entry blanks (or use the one below) and regulations concerning the tournament can be obtained upon request. Contact the tournament manager, Barbara J. Wilke, East Stroudsburg State College, Koehler Field House, East Stroudsburg, Penna. 18301.

(Cut here or type facsimile)

INTERCOLLEGIATE ENTRY BLANK

The number of teams we wish to enter in the following classes is indicated below:

.....Total number of teams in Class A—Men's....., Mixed....., Women's.....
.....Total number of teams in Class B—Men's....., Mixed....., Women's.....
.....Total number of teams in Class C—Men's....., Mixed....., Women's.....
.....Total number of teams in Class D—Men's....., Mixed....., Women's.....

University or College Archery Chairman,
Manager, or Faculty Sponsor.....

Name of University or College.....

Address .....

Check below

.....Enclosed for 1-10 teams. Fee of $2.00
.....Enclosed for.....extra teams at $2.00 per each 10. Total fee.....
Total amount enclosed.....

OFFICIAL RULES FOR ARCHERY TOURNAMENTS

Approved by the National Archery Association of the United States

RULE 1. ROUNDS

Section 1. Target competition can be based on either individual or team scores or both. Any one of the rounds may be used for individual or team competition. The rounds are–

a. American Round[1] –30 arrows from 60 yards, 50 yards, and 40 yards, respectively.
b. Junior American Round–30 arrows from 50 yards, 40 yards, and 30 yards, respectively.
c. Columbia Round–24 arrows from 50 yards, 40 yards, and 30 yards, respectively.
d. Junior Columbia Round–24 arrows from 40 yards, 30 yards, and 20 yards, respectively.
e. Scholastic Round[2]*–24 arrows from 40 yards and 30 yards respectively.
f. Junior Scholastic Round[2]*–24 arrows from 30 yards and 20 yards respectively.
g. Range Round[3]*–60 arrows from a single distance–either 50 yards, 40 yards, 30 yards, or 20 yards–on regulation targets.
h. Miniature Round[3]*–60 arrows from 15 yards on a 2-foot target, scaled to the same proportions as the regulation target.

RULE 2. EQUIPMENT

Section 1. Targets shall be–

a. Of standard size (48 inches) in diameter, divided into a central disc, 9-3/5 inches in diameter, and four concentric rings, each 4-4/5 inches in width, painted respectively, from within out, gold, red, light blue, black, and white.
b. In sufficiently good condition so that arrows will not pass through them.
c. Set on standards of soft wood.
   NOTE: Targets of baled straw may be built up from the ground and not placed on a standard.
d. Placed on a straight line parallel to the shooting line and set so that the centers of the golds are 51 inches from the ground.[4]

*Not official rounds of NAA.
[1] Recommended for advanced coeducational groups only.
[2] Rounds designed particularly for school use.
[3] Rounds designed particularly for indoor shooting.
[4] This rule must be complied with in championship events. For events other than championship, the centers of the golds need not be within the stated tolerances.

e. Slightly tilted back at the top.
f. Securely anchored so that they will not be blown or pushed over.
g. Numbered or lettered.
h. Covered with a face in sufficiently good condition so that there will be no question as to the value of hits.
i. Separated by at least 10 feet, center to center; preferably 15 feet.

Section 2. The outdoor range shall be–
a. Level and sodded with grass closely cut; there must be sufficient area back of the targets for arrows that miss the targets to land safely.
b. Free from obstruction in line with the flight of the arrow.
c. Clearly marked with lines showing accurate distances from the target at which archers are to shoot. These lines must be parallel to the line of the targets.
d. Roped off at least 10 yards back of the shooting line and at the sides to keep spectators from the shooting area.
e. Clear of obstructions on the shooting line. NOTE: Archers may use a ground quiver while they are shooting.

Section 3. The indoor range shall have a backdrop to protect the arrows that miss the target. (See also Section 2 b, c, d, and e of Rule 2 above.)

Section 4. Any type of sight or aiming device attached to the bow may be used. Any type of point of aim may be used which does not protrude more than six inches above the ground and does not interfere with shooting or scoring.

Section 5. Any type of bow except a crossbow may be used.

Section 6. Any type of arrows except those that would unreasonably injure the target or target face may be used.

NOTE: The arrows of each archer must have a distinctive mark, usually identified by the colored crest.

RULE 3. OFFICIALS AND THEIR DUTIES

Section 1. Lady paramount[1] is the presiding official of the ladies shooting line, and is selected by the hostess club. Her duties are–
a. To examine the shooting field and see that it satisfies. (Rule 2, Sections 1, 2, and 3.)
b. To see that all rules herein stated are enforced.
c. To check target assignments, making sure that each archer has been correctly assigned a target. (See Rule 5, Section 1 b.)

[1] Field captain is the presiding official over men's shooting lines and would have the same duties as outlined for lady paramount.

Name	Audrey Bullett		Name	Mary McLean		Name	Joan Ford		Name	Nancy Hoag	
Round	Jr. Col. Round		Round	Jr. Col. Round		Round	Jr. Col. Round		Round	Jr. Col. Round	
Date	May 20, 1972		Date	May 20, 1972		Date	May 20, 1972		Date	May 20, 1972	
At 40 yds.	Hits	Score	At 40 yds.	Hits	Score	At 40 yds.	Hits	Score	At 40 yds.	Hits	Score
9 7 7 7 5	5	35	9 5 5 5 3	5	25	9 9 7 7 5 3	6	40	7 7 7 5 5	5	31
9 7 7 7 7 5	6	42	7 5 5 5 3 1	6	26	7 7 7 5 5 5	6	36	7 7 5 3 1 1	6	24
9 7 7 7 7	5	37	5 5 1 1	4	12	7 7 7 5 3 1	6	30	7 7 7 7 5 5	6	38
9 9 7 7 7 7	6	46	9 5 3	3	17	9 9 7 5 5 5	6	40	9 9 9 7 7 3	6	44
	22	160		18	80		24	146		23	177
At 30 yds.			At 30 yds.			At 30 yds.			At 30 yds.		
9 7 7 7 7 5	6	42	9 9 7 5 5 3	6	38	9 9 9 9 9 7	6	52	7 7 7 7 5 3	6	36
7 7 7 7 7 5	6	40	9 7 7 5 5 5	6	38	9 9 9 9 9 7	6	52	9 9 7 7 7 5	6	44
9 9 9 9 5 5	6	46	7 7 7 7 3 3	6	34	9 9 7 7 7 5	6	44	9 9 9 7 7 5	6	46
7 7 7 5 5 5	6	36	7 7 5 5 5 3	6	32	9 9 9 9 9 7	6	52	9 9 7 7 7 7	6	46
	24	164		24	142		24	200		24	172
At 20 yds.			At 20 yds.			At 20 yds.			At 20 yds.		
9 9 9 9 7 7	6	50	9 7 7 7 5 3	6	38	9 9 9 7 7 1	6	42	9 7 7 7 7 7	6	44
9 9 9 9 9 9	6	54	7 7 7 7 5 3	6	36	9 9 9 9 9 7	6	52	9 7 7 7 7 5	6	42
9 9 9 9 9 7	6	52	9 7 7 7 5 5	6	40	9 9 9 9 9 7	6	52	9 9 9 7 5 5	6	44
9 9 9 9 7 7	6	50	9 7 7 5 5 3	6	36	9 9 9 9 7 7	6	50	9 9 9 9 7 7	6	50
	24	206		24	150		24	196		24	180
Total Score	70	550	Total Score	66	372	Total Score	72	548	Total Score	71	489
								Team Score		279 - 1933	

Sample scoresheet.

d. To see that all preliminary practice is properly supervised either by herself or an assistant.
e. To call together the target captains before the last practice end is announced to see that they are instructed in their duties and to answer any questions they may have concerning tournament regulations.
f. To maintain order and congeniality on the shooting line.
g. To make adjustments for complaints registered by the target captains.
h. To be sure there are least three uninterrupted practice ends, at the longest distance, followed without undue interruption by the beginning of scoring for the round.
i. To signal with one blast of the whistle to commence or cease shooting for each end; and two blasts to indicate an emergency which is a signal for all archers to stop shooting immediately.
j. To penalize an archer after repeated infraction of a rule which has been called to her attention by the target captain. For the first repetition after warning, the loss of the highest arrow of that end; for the second repetition, the loss of the end; for the third repetition, expulsion from the tournament.
k. To sign all scorecards at the end of the tournament as well as official results of mail and telegraphic meets.
l. To announce first, second, and third places at the conclusion of the tournament.

Section 2. The target captain is the official presiding over the archers on one target. She is selected by that particular group of archers; normally she is the first in the order of assignment. Her duties are–

a. To see that each archer shoots in her turn.
b. To settle all local questions. NOTE: Appeals concerning her decision may be made to lady paramount, whose decision is final.
c. To draw the arrows from the target and announce their values to the scorers. (See Rule 6.)
d. To call lady paramount who shall (1) witness perfect ends, and (2) make decisions on debatable questions.
e. To take an archer's place on the shooting line in the event of an unavoidable delay such as may occur when a bowstring breaks or other accident to equipment occurs. (See Rule 5, Section 11.)

Section 3. The scorers shall report and record each arrow's score on an official scoreboard and also record the total number of hits and scores for each end, group of ends, or range scores. and the total hits and scores for that round.

a. There shall be two scorers for each target selected by archers shooting on that target, normally the second and third girls assigned to that target.

b. They shall carefully check their records with each other at the conclusion of each end and round. (See Rule 6.)

RULE 4. DEFINITIONS OF TERMS

Section 1. An end shall represent six arrows shot consecutively by one archer. (A perfect end is an end of six consecutive shots that hit the gold.)

Section 2. A range is a term which applies to shooting a given number of ends from any one of the given distances in a round. Range score is the score for that range (or distance).

Section 3. A round is a term which applies to shooting a given number of consecutive ends (a range) from more than one given distance. (EXCEPTION: See Rule 1, Section 1.)

Section 4. Gold—the highest scoring area on the target face located in the center.

Section 5. Double Scoring System—a system requiring two people to record the same scores on one target who check with each other, ensuring accurate scoring.

Section 6. Double round—shooting the same round twice.

RULE 5. TOURNAMENT REGULATIONS

Section 1. The hostess club shall—

a. Notify guest archers and teams of (1) the rounds to be shot, (2) date registrations are due, and (3) the date and time of the tournament. NOTE: If the match is a telegraphic or mail meet, the hostess club must announce the date scores are due.
b. Make target assignments in the order registrations are received. (See Rule 5, Section 2.)
c. Prepare the shooting field as described in Rule 2, Sections 1, 2, and 3; provide a whistle, scorepads, and pencils.
d. Engage the lady paramount.
e. Send results of the tournament to all clubs participating in mail or telegraphic meets.

Section 2. Target assignments—it is recommended that no more than four shall shoot at one target.

Section 3. As much practice as desired may be taken before the tournament commences, providing there be at least three uninterrupted practice ends, at the longest distance, followed without undue interruption by the beginning of scoring for the round. No practice shots shall be allowed after the tournament has started.

Section 4. Order of shooting

a. It is recommended that no more than two people shall shoot at the same time on one target, in which case each stands on the

shooting line one pace to either side of a perpendicular from the gold.

b. Where the archers on a target are shooting in turn, it is customary for each archer to shoot three arrows and then yield her place to her target mates, and then in her turn shoot the other three arrows. If in the opinion of the field officials there is good reason, they may request archers to shoot six arrows at a time.

c. Archers shall shoot in the order their names appear on the scorecard.

Section 5. An archer shall stand so that she has one foot on each side of the shooting line.

Section 6. Shooting for each end begins at the signal from the lady paramount's whistle. At the completion of each end the whistle is the signal to go to the targets to score.

Section 7. When not shooting, archers must stay at least three yards back of the shooting line.

Section 8. A round which requires shooting from more than one distance is started from the greatest distance, after which archers move toward the targets to shoot from the next distance.

Section 9. Any attempt to annoy or confuse another archer is unsportsmanlike. If after a warning from the lady paramount the archer persists in being annoying, she may be disqualified by the lady paramount.

Section 10. An arrow leaving the bow shall be deemed shot if the archer, while standing where she has been shooting, cannot reach it with her bow.

Section 11. If for any reason an archer cannot take her place on the shooting line, and she has some arrows yet to shoot for that end, the target captain shall stand in her place to aid the lady paramount in determining when to blow the whistle.

Section 12. Shooting shall be stopped at any time upon two blasts from the lady paramount's whistle. The signal indicates an emergency.

Section 13. The whole round must be shot in no more than two sessions to be counted as an official score. (It is to be understood there is to be no practice between sessions or before the second part of a round.)

Section 14. In case an arrow hits the target and hangs down across the face, thus being in danger of getting hit by another shot, the lady paramount shall sound two blasts on her whistle to stop all shooting and will see that it is placed securely into the target where it hit.

Section 15. Coaching an archer on the shooting line by means of inaudible and inconspicuous signs or symbols is permitted, provided

that such coaching is not distracting to other contestants. If a contestant on the same target or adjacent targets complains that such activity is personally distracting, such coaching must be terminated immediately. Audible coaching of archers on the shooting line is not permitted.

Section 16. Coaching an archer while she is on the shooting line is prohibited during an official round.

Section 17. Foot markers may be used and left on the shooting line during the round, provided they are embedded in the turf and do not extend more than ½" above the ground.

RULE 6. SCORING

Section 1. The double scoring system shall be used. (See Rule 3, Section 3a and Rule 4, Section 5.) A sample scoresheet is shown on page 66.

Section 2. The face of the target has five concentric rings, each bearing a definite scoring value. The center of gold scores 9 points for each hit; red scores 7 points, blue scores 5 points, black scores 3 points, and white scores 1 point.

Section 3. An arrow that cuts through two colors is given the higher value.

NOTE: An exception occurs when the target face or arrow has been touched before a decision has been made, in which case the arrow shall receive the lower value.

Section 4. Penetrations and rebounds

a. An arrow that has passed through the scoring face so that it is not visible from the front shall count 7 at 60 yards or less. Arrows passing completely through the target, if witnessed, are scored in the same manner.

b. An arrow shot at ranges of 60 yards or less rebounding from the scoring face of the target shall count as 7. It must be witnessed by another person.

c. Both penetrations and rebounds shall be placed in the red by the target captain after she has checked the target for line hits.

Section 5. An arrow embedded in another arrow on the scoring face shall score the same as the arrow in which it is embedded.

Section 6. Tie scores shall be resolved in favor of the archer shooting the highest score at the longest distance, then the next longest distances, in descending order. If still tied through all distances, then ties shall be resolved by the greatest number of golds, then reds, then blues, then blacks. If still tied, the tie shall be resolved by the greatest number of perfect ends. If still tied, it shall be so recorded.

Section 7. Arrows must remain untouched until withdrawn by the target captain, or her deputy, in the presence of the scorers. Arrows withdrawn otherwise shall not be counted.

Section 8. Scoring and drawing shall be witnessed by all archers shooting on the target.

Section 9. In case a target falls over during an end, the archers on that target shall shoot the end over again.

Section 10. Unless each hit is separately itemized on the score-sheets, the score shall not be counted.

Section 11. If, in any end, an archer shoots more than six arrows, she shall forfeit as many of the highest scoring arrows as the number of extra arrows shot.

Section 12. Any archer may check her score or that of another archer after the round is completed.

Section 13. A hit or hits made by an archer on a target not assigned to her shall not be counted.

Section 14. It is customary to draw the arrows having the highest value first.

Section 15. Equipment failures, mishaps, or other occurrences not specifically covered in other rules shall not entitle an archer to repeat a shot unless the mis-shot arrow can be reached by the bow from the archer's position on the shooting line.

RULE 7. SAFETY RULES

Section 1. Always remember that the bow and arrow is a deadly weapon and conduct yourself accordingly at all times.

Section 2. Arrows should be nocked only on the shooting line, and only pointed in the direction of the targets when nocked.

Section 3. Never practice except under organized practice rules, unless you are absolutely sure there is not even a remote chance of an accident.

a. Archers may not shoot at varying distances from different shooting lines nor engage in unauthorized practice, unless separated by the width of four target lanes.

Section 4. Be alert for unexpected children or even adults who may, through ignorance or thoughtlessness, suddenly be on the field.

Section 5. Do not hesitate to call attention to actions of other archers which you know are dangerous either to the archer or others.

Section 6. The part of the range in front of the shooting line is forbidden territory while others are on the shooting line.

Section 7. In drawing arrows from the target, be sure no one is behind you where they may be injured by sudden removal of an arrow. Stand at one side of the target when others are drawing.

Section 8. Inspect arrows to see that they are not cracked or damaged. *Arrows that are cracked should be broken—they cannot safely be repaired.*

NOTE: *Complete, up-to-date, Official NAA Rules are available from Clayton B. Shenk, Executive Secretary, National Archery Association, 2833 Lincoln Highway E., Ronks, Pa. 17572.*

INTERNATIONAL ARCHERY FEDERATION
TARGET ARCHERY RULES OF SHOOTING

Reprinted by Permission of the NAA

Art. 700—THE FITA ROUND:

The FITA round consists of 36 arrows shot from each of the following distances:

90, 70, 50 and 30 metres for gentlemen

70, 60, 50 and 30 metres for ladies

Shooting shall be in one direction only, and will commence at the longest distance and finish at the shortest distance in the order set above.

A round may be shot in one day or over two successive days. If a round is shot over two days, the two longer distances shall be shot on the first day and the two shorter distances shall be shot on the second day. Two ends of three sighter arrows are permitted preceding the commencement of shooting each day. These are to be shot under the control of the field captain and shall not be scored.

In the event of a program, including a FITA round as well as some other rounds, the FITA round shall always be shot first.

Art. 701—TARGET FACES:

Diagrams:

122 cm. target face ..... 80 cm. target face

Scoring Values:

Gold (Yellow).....	Inner Zone 10
	Outer Zone 9
Red.....	Inner Zone 8
	Outer Zone 7
Light Blue.....	Inner Zone 6
	Outer Zone 5
Black.....	Inner Zone 4
	Outer Zone 3
White	Inner Zone 2
	Outer Zone 1

Description: There are two standard circular FITA target faces, 122 cm. and 80 cm. diameters.

Both these faces are divided into five concentric color zones arranged from the center outwards as follows:

Gold (Yellow), Red, Light Blue, Black and White.

Each color zone is in turn divided by a thin line into zones of equal width, thus making in all ten scoring zones of equal width measured from the center of the Gold: 6.1 cm. on the 122 cm. face, and 4.0 cm. on the 80 cm. face.

Such dividing lines, and any dividing lines which may be used between colors, shall be made entirely within the higher scoring zone in each case.

Any line marking the outermost edge of the white shall be made entirely within the scoring zone.

On Target Faces of 122 cm. a tolerance of measurement shall not exceed 3 mm in any one zone and 4 mm on the full 122 cm. diameter. On target faces of 80 cm. a tolerance of measurement shall not exceed 2 mm in any one zone and 3 mm on the full 80 cm. diameter.

For distances of 50 and 30 metres, the target face of 122 cm. diameter shall be used.

For distances of 50 and 30 metres, the target face of 80 cm. diameter shall be used.

Art. 702—RANGE LAYOUT:

a. The range shall be squared off and each distance accurately measured from a point vertically beneath the Gold of each Target to the Shooting Line.
b. The Waiting Line shall be indicated at least five metres behind the Shooting Line.
c. Each buttress shall be set up at an angle of about 15 degrees.
d. The Center of the Gold shall be 130 cm. above the ground.

CONVERSION TABLE

Centimeter-Metres	*Yards*	*Feet*	*Inches*
1 Centimeter			0.3937
80 Centimeters			31.5
122 Centimeters			48.0
1 Metre	= –	3	3.37
5 Metres	= 5	1	4.85
30 Metres	= 32	2	5.10
50 Metres	= 54	2	0.50
60 Metres	= 65	1	10.20
70 Metres	= 76	1	7.90
90 Metres	= 98	1	3.30

Art. 705—SHOOTING:

a. Each archer shall shoot his arrows in ends of 3 arrows each.
b. Excepting for persons who are permanently disabled, archers shall shoot from a standing position and without support, with one foot on each side of the shooting line.
c. An arrow shall not deem to have been shot if the archer can touch it with his bow without moving his feet from their position in relation to the shooting line.
d. While an archer is on the shooting line, he shall receive no assistance or information, by word or otherwise, from anyone, other than for the purpose of making essential changes in equipment.

Art. 706–SCORING:

a. One scorer shall be appointed for each target.

b. At 90, 70 and 60 metres, scoring shall take place after every second end (6 arrows) at world championship tournaments, but at other tournaments scoring may take place after each end of 3 arrows or after every second end (6 arrows).
At 50 and 30 metres, scoring shall always take place after each end of 3 arrows.

c. Scorers shall enter the value of each arrow on score sheets as called out by the archers to whom the arrows belong.
Other archers on that target shall check the value of each arrow called out.
Only arrows scoring ten points shall be referred to as "Golds."

d. Neither the arrows nor the face shall be touched until all the arrows on that target have been recorded.

e. An arrow shall be scored according to the position of the shaft in the target face.

f. If more than three arrows (or six as the case may be), belonging to the same archer should be found in the target, only the three lowest (or six lowest, as the case may be) in value be scored.
Should an archer be found to repeat this, he may be disqualified.

g. Should the shaft of an arrow touch two colors, or touch any dividing line between scoring zones, that arrow shall score the higher value of the zones affected.

h. Unless all arrow holes are suitably marked on each occasion when arrows are scored and drawn from the target, arrows rebounding from the target face shall not be scored.

i. An arrow hitting:
   1. The target and rebounding shall score according to its point of impact on the target, provided that an unmarked hole or mark made by the rebounding arrow can be identified.
   2. Another arrow in the nock and remaining embedded therein, shall score according to the value of the arrow struck.
   3. Another arrow, and then hitting the target face after defection, shall score as it lies in the target.
   4. Another arrow, and then rebounding from the target, shall score the value of the struck arrow, provided the damaged arrow can be identified.
   5. The target face after rebounding off the ground, shall not score.
   6. A target other than an archer's own target, shall not score.

j. The field captain will insure that, after scoring, no arrows are left in the targets before any signal is given for shooting to re-commence. If this inadvertently happens, the shooting shall not be interrupted.
re-commence. If this inadvertently happens, the shooting shall not be interrupted.
An archer may shoot that end with other arrows, or make up the arrows lost after shooting over that distance has been completed. In such circumstances, the field captain shall participate in the scoring after than end, making sure that the arrows which remained in the target, are checked back to the archer's score card, before any arrows are withdrawn from the target.

k. In the event of an archer leaving arrows, e.g., on the ground in the target area, he may use others, provided he informs the field captain before shooting. The field captain shall exercise such checks as he deems fit in each circumstance.

l. An archer may delegate authority to score and collect his arrows to his team captain or to another archer on his own target.

m. Score sheets shall be signed by the scorer and the archer, denoting that the archer agrees with the score, and thereafter he may make no claim for any alteration of the score.
If the scorer is participating in the shooting, his score sheet shall be signed by some other archer on the same target.

n. In the event of a tie in score, the results shall be determined as follows:
   1. For individuals:
      The archer, of those tying, with the greatest number of scoring hits.
      If this is also a tie, then the archer of those so tying with the greatest number of Golds (hits scoring 10 points).
      If this is also a tie, then the archer of those so tying, with the greatest number of hits scoring 9 points.
   2. For teams:
      The team, of those tying, having the archer making the highest individual score.
      If this is also a tie, then the team of those tying, having the archer making the second highest individual score.
      If this is also a tie, then the teams so tying, shall be declared equal.

Adopted at the F.I.T.A. (International Archery Federation) Congress, Stockholm, Sweden 1959, and amended Vasteras, Sweden, 1965.

(The above set of rules is incomplete. For complete rules for target and field archery, refer to *The Archer's Handbook*, published by the NAA, 2833 Lincoln Highway East, Ronks, Pa. 17572).

NATIONAL FIELD ARCHERY ASSOCIATION OFFICIAL RULES*

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Field Round Rules

Terms

Unit—A 14-target course including all official shots.

Round—Two such units, or twice around one.

Double Round—Two complete rounds.

Out—First unit to be shot in a round.

In—Second unit to be shot in a round.

Stake—Shooting position.

Face—Target face.

Butt—Any object against which a face is placed.

Shot—This term in connection with the stake number, i.e., "fourth shot," shall be used in referring to the different shots on any course.

Spot—Aiming center.

Timber—Warning call to other archers who may be in the danger zone, announcing that you are ready to shoot.

Faces

1. Four face sizes shall be used:
   a. A 24-inch face with a 12-center bull and a 4-inch spot.
   b. An 18-inch face with a 9-inch bull and a 3-inch spot.
   c. A 12-inch face with a 6-inch bull and a 2-inch spot.
   d. A 6-inch face with a 3-inch bull and a 1-inch spot.

   The outside ring shall be black. The bull shall be white and the spot shall be black.

   Animal targets bearing these official round faces may be used in which case the faces need not be painted, only outlined, but aiming center or spot must be plainly visible. Spot must be painted some color sharply contrasting with target color. This same spot and ring target is official without animal silhouette.
2. All butts must be so placed that the full face is exposed to the shooter.
3. A standard unit shall consist of the following 14 shots:

   (4 arrows at each distance)

   15, 20, 25, and 30 yards at a 12-inch face
   40, 45, and 50 yards at 18-inch face
   55, 60, and 65 yards at 24-inch face

*See *Constitution, By-laws, and Policy of the National Field Archery Association,* 1968 edition. NFAA, Route 2, Box 514, Redlands, California 92373. (Note: Revised each year and available on April 1. $1.00.)

and the following four position shots; each arrow to be shot from a different position or at a different target:

35 yards at 18-inch target, all from the same distance, but from different positions or different targets
30, 35, 40, and 45 yards at 18-inch target
50, 60, 70, and 80 yards at 24-inch target
20, 25, 30, and 35 yards at 6-inch target.

4. In laying out the course, any order may be used as the official shooting order on any four-position shot. The prescribed distances must be adhered to without variation.
5. A range, to be official, must be approved by the National Field Archery Association (see Official Handbook for construction of roving courses).

Scoring

Bullseye, including spot—5 points. Outer circle—3 points.

Shooting Rules

1. Any kinds of bow, except a crossbow, and any kind of arrow, except broadheads, may be used.
2. The status of doubtful arrows shall be determined before drawing any arrows from the target.
3. The target captain shall be the final judge of all disputed arrows.
4. An arrow shaft cutting two rings shall be scored as being in the ring of greater value. The outer line of the field archery target is outside the scoring field. For that reason the arrow shaft must cut the line so that no color of the line can be seen between arrow shaft and scoring field before a hit may be counted. The same is true for the inner line between the two scoring circles.
5. Skids or glances into the target shall not be counted.
6. Arrows passing through the face, but still in the butt, may be pushed back and scored as a hit in the circle through which they went. This does not mean that they may be withdrawn and then stuck back through the target.
7. Witnessed bounceouts believed to have hit the target in the scoring area will be reshot. Arrows passing through the target in the scoring area will be scored as witnessed by the other shooters in the group.
8. All ties shall be decided by shooting the first three targets. If a tie still exists after three targets, continue from target to target until the tie is broken.

9. No archer may practice on any shot of a course to be used for tournament shooting later the same day. Special practice targets should be supplied.
10. An archer who shoots arrows at the target in excess of the prescribed number shall lose the arrow or arrows of higher value in all NFAA rounds.

DGWS GOLF GUIDE COMMITTEES
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Editor's Note: Teachers of golf are increasingly being asked to teach large groups of students. The 1971-73 Golf Guide Committee felt that such a trend has created a need for more information and help in techniques of teaching large groups. The following three articles resulted from our search for ideas.

Corridor Golf

JAN WOOD

Jan Wood received her B.S. degree from the University of California at Los Angeles, did graduate work at the University of Southern California, Los Angeles, and received her M.A. degree in administration from San Francisco State College. In 1964 she was the DGWS Golf Representative for the Southwest District and has been a National Foundation Area Representative since 1966. Jan Wood has taught golf at the California Polytech Workshop for the past five summers.

A softball or soccer field with its five-yard lines can become a natural setting for the teaching of golf. It is possible to accommodate large numbers of students in such a setting when the corridors formed between the sides of the field by the five-yard stripes are thought of as fairways (Figure 1). The corridors on each side of a designated "fairway" are then out-of-bounds or rough (Figure 2).

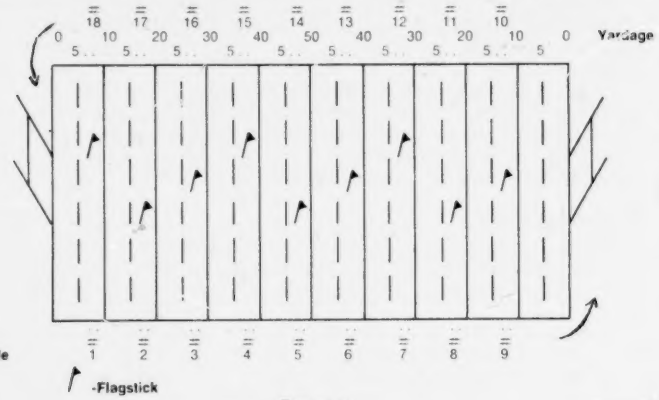

Figure 1.

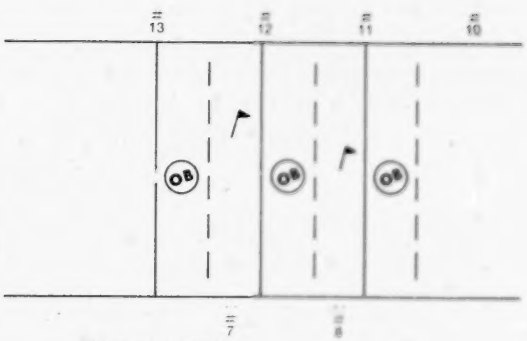

Figure 2.

In order to indicate a target and the distance for a desired shot, a flagstick or the equivalent (such as an arrow or quiver) can be placed one-third, one-half, or two-thirds the distance toward an outer side line. This enables the target flagstick to be used by both outside lines at the same time, forming hole numbers 1-9 on one side and 10-18 on the other.

Coaches, football fields, golf classes, and divots are often incompatible. But a guarantee of no divots on the field may settle this problem. No lines other than the ones present on the field are needed.

Seventy-two girls can be actively involved in corridor golf. Arrange the class into 18 foursomes; partners will alternate playing and coaching each other. At the same time competition can be arranged, (match or stroke) either with partners or in the foursome. In such a case, "honors" can be observed for each new "hole."

Play and Scoring

Tee off areas need no special marking. The outside sidelines are the tee lines. Before play begins, players must be equipped with scorecards and pencils. The following system for play and scoring can be used:

1. Designate the area two club lengths from the "flag" in any direction as the "green."
2. Hit the ball down the corridor to the flagstick. If it lands within or on the green, score three (one stroke plus two strokes for putting).

3. If the ball lands either long or short of the green, add one more stroke for a total of four.
4. If the ball stops out-of-bounds (in an adjacent corridor), whether long or short, score five.

As the class progresses, a more discriminating alternative could be used for scoring balls that go "out-of-bounds." If, for a right handed golfer, the shot goes to the right and is a push shot, score four. If the shot is pulled to the left, score five. The push shot which is the stronger shot of the two is thereby rewarded. (While the push shot is related to a hook, the pull often leads to the weaker slice.)

Use a shotgun start with a plastic ball to begin class play. Groups can be placed on 9 holes or on all 18 holes at once. Holes 1-9 will be stretched along one side of the field with holes 10-18 along the other side (Figure 1). The number of balls each student hits will depend upon the teacher's preference and the circumstances of the class, but could range from one to five. Have the students hit the required balls from the tee, then walk forward for recovery of balls and scoring. After recovering the balls, students walk diagonally to the next hole.

It is likely that a class will complete only 9 holes the first day, but with speedy golf techniques, 18 holes can be completed later.

Testing

When testing time comes, the same environment and procedures can be used. One test of direction control and/or accuracy is the following:

1. Arrange stations, having six balls and a student who is a teacher-scorer at each.
2. Test by having a student-player hit three balls at flagstick. Score three points for ball down the corridor, two points to right (push corridor), one point to left (pull corridor).
3. Student recovers three balls. As teacher-scorer records score and signature, the second person gets ready to hit the other three balls.
4. Rotate assignments.

Corridor golf provides the teacher and students with some unique opportunities. A large number of students can be offered meaningful practice. Little additional equipment is needed, only markers for flagsticks. Either hard balls or practice balls can be used. Players can practice hitting to a variety of distances, can coach, or can be tested. Competition can be arranged for added incentive.

This kind of golf course is already built for you! It would be a wise stroke to begin using a football field, or perhaps to mark your own soccer field in this way.

Avid Teacher - Avid Golfers

VIRGINIA LOHMILLER

Virginia Lohmiller received her B.A. degree from the State University of Montana, Missoula, and her M.A. degree from Teachers College, Columbia University, New York. An avid golfer for more than 30 years, she is the Iowa DGWS Golf Chairman, the Iowa HPER Journal *editor, and a physical education instructor at West High School, Davenport, Iowa.*

Large groups of students *can* structure swings for golf play; they can understand the layout of a course, game procedure, and fundamental rules. Yes, regardless of class size, if you are an avid teacher you will develop avid golfers. Your one objective is to complete a single unit so intensely that each student can play the game with reasonable knowledge and some confidence about her swing. No space is too small for this assignment if you are willing to test your ingenuity.

Here are some ideas for an introductory golf unit.

Lesson 1

Begin with orientation about the sport, its lifetime value, its possibilities for sociability and relaxation, and its lifetime challenge to the real competitor. Beginners also need to realize that difficulty can be experienced in structuring a swing, which should be recognized as a science involving the laws of physics. Emphasize the satisfaction which will be felt as skill is developed. Golf instruction sheets should be distributed to familiarize students with history, equipment, terms, safety factors, and basic rules. At this time, review the section on safety with direct reference to class arrangement and directions about which students must be aware. For indoor instruction, consider assignments of all areas for partners or threesomes. For outdoor instruction, areas of field could be sectioned. Your instruction orders to the class must be explained: begin hitting; stop hitting; retrieve; close order (class gathers quickly in front of instructor); to stations; exercise order.

Polish up those clubs and indicate interest in your own equipment. Line up the woods and irons, explaining their structure, anticipated distances for a few, and something about trajectory. Even your accessory pieces of equipment will be of interest. A demonstration of the direction swing with a number eight, a distance swing with a wood, and your putting stroke will start the ball rolling.

Concepts differ regarding the right grip for beginners. Certainly it is difficult to change techniques once grooved. Therefore, why not

devote enough time to feeling a good overlapping grip? A sound grip is the crux of the swing. Rather than confuse beginners with various stances, initiate the "H" address position. If indoors, diagram with chalk a large "H" turned sideways. Partners can check as the student stands with her toes on one line with the line of flight parallel and the ball line perpendicular.

Lesson 2

In starting swing instruction, the feel can be learned by using weighted strings, partners sharing if quantity is limited. After this experience, a club is held between two fingers and allowed to move like a pendulum. Emphasize that clubhead weight is grooving a pattern without being forced to do so.

A cue may be taken from the National Golf Foundation which recognizes the effectiveness of introducing the short swing before the full swing. With class members remaining in their semicircular formation around the instructor, present the direction swing. As described in the *Golf Instructor's Guide*, a player's arms form a triangle, shoulders serve as the base, and hands are the apex.[1] When the student swings her club, this triangle swings back and through along a track to its target. The class, following demonstration and swinging practice, is ready to use half swings with plastic balls aiming at large colored circles on the wall or ground targets outside. After many years of experimenting with methods, the writer firmly believes a greater percentage of students will develop better swings if a direction swing is taught first. This approach allows the student to build a small structure before attempting the involvements of the full swing. Confidence will be gained and the pendular movement will serve as a framework for expansion.

Lesson 3

By means of a blackboard, or with cutouts, diagram a green and its surrounding area to clarify the type of shots students are learning and to relate them to the slant of the club face. Beyond 10 yards a golfer will pitch with short irons, depending on the contour; within 10 yards, he will use the pitch-and-run. Illustrating the relationship of trajectory to club selection is helpful. Practice in short pitch shots is enjoyable when hitting over track hurdles, to colored targets placed on walls, or to archery targets in an outdoor situation.

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[1] *Golf Instructor's Guide*, a National Foundation publication, Merchandise Mart, Chicago, Illinois 60654 (1969), p. 31.

Lesson 4

Introduce the pitch-and-run with its narrower stance, relatively stable lower body, decreased swing, and variance in club selection. Station method teaching is excellent for practice: areas for pitch-and-run to a cup, short pitch shots to wastebaskets, longer pitch shots over hurdles to hula hoops. Dr. Maxwell Maltz in *Psycho-Cybernetics* writes: "Your built-in success mechanism must have a goal or target."[2] Golfers must always visualize a target for every shot.

Lesson 5

There is one basic swing in golf and the direction swing is now lengthened to become the distance swing. Here, exercises can be of utmost value. *Golf Instructor's Guide* and *Golf Lessons*[3] include many which could replace warmups to make preliminary class activity more meaningful. The towel exercise will introduce the feeling of the full swing. To identify the need of short and full swings, roll out a long strip of wide, green shelf paper and add cutouts to set up a typical golf hole: rough, sand traps and bunkers, out-of-bounds area with a fence, natural water hazard, trees, tee-off. All of these can be cut from colored construction paper. Review the pitch, pitch-and-run by selecting clubs as they would be used. Working back to the tee, suggest a number of full shots. The class, arranged in a large circle around the instructor, target side toward her, can start the full swing without balls. After students have assumed the correct address, the backswing is easily assumed when the instructor says "Turn your back to me." The downswing and follow-through are made with the instruction "Now face me." Practice continues with plastic balls, using regulation mats, strips of carpeting or rug samples, and hitting to wall or field targets.

Lesson 6

After reviewing the full swing and giving individual assistance where needed, describe the "C" position (head over ball, back straight but angled, knees easy and pointing to the target). This position looks like the letter "C" from the side. Label this a *must* for every swing. Demonstrate how one can easily slip into an "I" position, or raise up and miss and top balls. Present more detail in relation to the components of a swing: arc, rhythm, and plane.

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[2] Maxwell, Maltz, M.D., *Psycho-Cybernetics* (Englewood Cliffs, N.J.: Prentice-Hall, Inc., 1960), p. 26.
[3] National Golf Foundation publications.

Lesson 7

After practice on this basic swing structure, start using hard balls if conditions permit. The thrill of that well hit ball into a canvas cage becomes contagious! During the several class periods devoted to distance swing you cannot repeat too frequently the "back and through" admonition. The concept of hitting through can be improved by placing an eight-inch colored strip of paper in front of the ball. This pinpoints attention as the student sees the clubhead pass through the area.

Lesson 8

The following ideas for four stations where each student could check her full swing could create interest for one class period. Cut strips of colored construction paper, 18 inches long and 1-inch wide. Place the 1-inch end against a wall. The student stands with back to wall and heels on line with the 18-inch strip. If on the backswing the clubhead hits the wall, the plane of the swing is too flat. Another station is set up for a downswing check with the use of the same strips laid 1 inch from the wall. If the clubhead contacts the wall on the downswing, it is evident that the right hand has dominated or possibly body rotation was incorrect. Still a third station with handkerchief size pieces of material, held under the right armpit, will determine if the right elbow is correctly positioned at the top of the backswing. Glasses of water set outside the ankle position will encourage proper balance and correct foot position in pivoting. The wristwatch gimmick could also be used: squares of cardboard to which rubber bands have been attached form a reminder like a watch. When hands are hip high, the cardboard should face the partner standing opposite, thus indicating a correct position of the clubface at this point in the swing. With a four-way rotation of students, these interest areas offer much incentive for practice. The backswing, downswing checks could be combined, opening an area for checking each individual's swing pattern with the use of a camera or a videotape. If you take the time for an analysis with each student you are making a major contribution toward her future golf.

Lesson 9

One entire period could be devoted to an evaluation of each swing using some form of checklist. It could include address position, preliminary movements, takeaway, top of backswing, downswing, impact area, finish, and total swing pattern. Many teachers may want to consider short, frequent written quizzes as an important tool in evaluation.

Lesson 10

After adequate periods have been devoted to structuring direction and distance swings, putting technique should be introduced. Although there is a basic pattern, it is unquestionably a challenge to any beginner to settle into his own putting groove. Sections of rug runners of varying lengths can be laid out for putting courses, or a larger rugs can be used for clock putting; add scorecards and rules for the novice. Much is gained in this phase of the game through an objective approach.

Lesson 11

Lay out an outdoor or indoor course, using a no-bounce or plastic ball when indoors. With imagination, hazards can be labeled, green areas outlined, substitutes used for trees and bunkers, and out-of-bounds markers strategically placed. A careful review of basic rules and etiquette is necessary before students begin playing the game. Scorecards make it more realistic. Foursomes could take turns on each hole: scorekeeper, caddy, player, rule and etiquette advisor.

Lesson 12

Why not have a "choice" day? We at West High School in Davenport, Iowa, experienced a memorable highlight when a National Golf Foundation educational consultant visited and helped each student realize her potential as a golfer. Such a service is open to anyone interested by writing the Foundation's office in the Merchandise Mart, Chicago, Illinois 60654.

Summary

This game is so vital. You, as a teacher, are making a worthy contribution by including golf in your curriculum, regardless of class size. Its enjoyable and therapeutic values will be rewarding to everyone you teach. And as an avid teacher you will gain much satisfaction through structuring swings for avid golfers!

Checkpoints for a Full Swing Five Iron

MARTHA T. PARKES

Martha Parkes received her B.S. degree from Skidmore College, Saratoga Springs, New York, and her M.A. from the University of Colorado, Boulder. She is currently girls physical education chairman at Arroyo High School in San Lorenzo, California, and is past vice president, DGWS Southwest District. A 10 handicapper, she has taught high school physical education classes in golf for eight years.

Typical high school golf classes number 30 to 40 students. No teacher can personally get around to that many girls frequently enough to observe them individually and to detect and correct errors. Students must learn to check themselves for correct form and detection of errors; or they can be taught to work effectively as partners if they learn what to look for. Use of meaningful checkpoints (specific things which occur on the swing) makes it possible for the performer's partner to detect errors in execution.

Only a few new checkpoints should be introduced, explained, demonstrated, and drilled each class period. Groove a good swing by reinforcing sound mechanics with lots of unison swinging. The voice of the instructor can aid in developing rhythm as she indicates timing of backswing, momentum of downswing, and the habit of momentarily holding the follow-through position.

Help students to understand the terms and phrases used in your checkpoints so they know what you mean when you call a correction. To a golfer not in your class the phrase "knuckles 5-6 inches from your thighs" might not mean much. But a class member to whom the checkpoint has been explained and demonstrated knows what it is you are trying to communicate about how close the student's hands are to her legs.

It helps to break the swing down into parts which can be isolated and held momentarily while the student, or her partner, looks to see if the position is correct. In the early stages, have a class do only the backswing and stop at the "top of the backswing" to check an item such as "left arm straight." (Eventually each student should be able to bring her arm to the correct position kinesthetically, without having to take her eyes off the ball to see what she is doing.) Later, encourage the students to hold the follow-through to determine if they are still on balance or have swung through completely ("stomach facing target," not back hip left behind with only the arms and upper body doing the swinging).

I prefer the whole-part method of teaching the full swing and very early get the beginners into proper position at the top of the backswing and on the follow-through. They then seem to have less trouble with what goes on between the start of the swing and the follow-through. My classes do lots of rhythmic swinging to promote feel for developing clubhead momentum. We swing in unison, rhythmically back and forth for seven or eight times before stopping and addressing an imaginary ball again. When I see that the class has some feel for the swing we then do just one swing at a time. If a student seems to lose the rhythm of the swing, encourage her to go back to rhythmic swinging with the reminder that this is a perennial brush-up technique, not just a learning one.

Each student is given a copy of the following checkpoints to assist her in learning. Once a girl has learned these checkpoints in a class situation, she can refer to them from then on to referesh her memory and to keep her golf swing correctly grooved.

CHECKPOINTS FOR FULL GOLF SWING

I. Stance
   - A. Feet about as far apart as hips are wide
   - B. Left foot slightly toed out
   - C. Weight centered evenly over *both* feet
   - D. Knees and hips slightly bent
   - E. Grip with inside borders of both feet

II. Address Position
   - A. Clubhead soled evenly and slightly behind ball, bottom forward edge of club face perpendicular to target
   - B. Body lined up so that a line drawn from toe of right foot to toe of left foot and extended into space would go directly toward the target
   - C. Body slightly bent at ankles, knees and hips, and head slightly forward
   - D. Left arm straight, right elbow tucked and pointing toward right hip
   - E. Knuckles five to six inches forward of thighs when holding club at address

III. The Swing
   - A. Backswing
     1. Left arm is straight at the elbow, but not locked.
     2. Club is *drawn* back close to ground (not lifted).
     3. Club, hands, and arms work at unit, moving back together.

4. Wrists are cocked as back swing approaches waist level
5. Head remains steady (no lifting up or down, or swaying from side to side).
6. Weight remains *centered* over both feet.

B. Top of Backswing
1. Club is level with top of head and is above back of the neck.
2. Club shaft points away from target.
3. Club is nearly parallel with the ground.
4. Wrists and thumbs are *under* club shaft.
5. Right elbow remains close to the body and points toward the ground.
6. Left shoulder is under the chin (not forward of it).
7. Stomach faces away from target.
8. Left knee points toward toes of right foot.
9. Outside border of big toe of left foot maintains contact with the ground.

C. Downswing
1. Left side of body is held firm.
2. Head remains steady, eyes on the ball.
3. Left arm is straight (no elbow bend).
4. Wrists are kept firm.
5. Clubhead is swept through the ball (not poked or slapped at it).
6. Clubhead should follow a line toward the hole.

D. Follow-Through
1. Heel of club shaft points toward target.
2. Hands are level with top of head, wrists cocked, arms slightly bent (but not collapsed).
3. Stomach faces target.
4. Right shoulder is lower than left.
5. Body is balanced over both feet.
6. Left leg is slightly bent.
7. Right knee is bent and points toward toes of left foot.
8. Club is level with top of head and parallel to ground.

The History of the DGWS National Intercollegiate Golf Championship

MARGO L. ANDERSON

Margo Anderson teaches at the State University of New York at Binghamton. She completed her B.A. degree at St. Olaf College, Northfield, Minnesota and received her M.A. degree from The Ohio State University, Columbus. This material is from a thesis which was submitted in partial fulfillment of the requirements for the M.A. degree. A former state tournament competitor, Margo Anderson plays to a 6 handicap.

In 1941 Gladys E. Palmer and her physical education staff at The Ohio State University conducted the first National Collegiate Golf Tournament for Women. This was an era in which the professional leadership opposed intercollegiate competition for women. This sentiment was deeply ingrained in the leadership, for many of these women had labored arduously to curb abuses which had crept into competitive athletics for women in the early 1900s. Throughout the 1920s and 1930s they succeeded in rectifying many situations; in the process, they also succeeded in nearly eliminating all forms of competitive opportunities for college women.

Miss Palmer and her staff viewed play days and sports days as unrealistic competitive situations for the highly skilled; moreover, they believed that the changing times warranted the resumption of intercollegiate competition. There was every reason to believe that many of the problems previously encountered in such competition could be prevented if the contests were conducted by qualified women in compliance with current standards. Good leadership was of paramount importance to insure the welfare of the participant. The Ohio State group decided to sponsor a national tournament which, it was hoped, would demonstrate that such competition could be an educational experience. Golf was eventually selected as the most suitable activity for this tournament, which was announced to the profession in March 1941.

First Tournament

Thirty girls from 21 institutions competed in the first event in June, 1941 and several of them displayed a high caliber of skill. While Marjorie Row of Michigan State University was medalist with a score of 75, 15 other girls qualified for the Championship Flight with scores of 89 or better. Eleanor Dudley of The University of Alabama eventually won the match play event.

Because of World War II, the second tournament was not held until 1946. In 1953, the event was moved to the University of North Carolina in Greensboro, with Ethel Martus, chairman of the Women's Physical Education Department, serving as sponsor.

The Tournament embarked upon an uncertain course when it left Ohio State. After conducting the Tournament for two years, The University of North Carolina bowed out, but Pauline Martin (Mrs. John Erickson), a member of the physical education staff at Lake Forest College, Lake Forest, Illinois assumed the responsibility for continuing the Tournament. Pauline Martin had represented Ohio State as a Tournament contestant for four years.

Following the Tournament at Lake Forest in 1955, there was once again a problem of securing a sponsor for the next year. This time Purdue University, under the leadership of Helen Hazelton, agreed to conduct the Tournament in 1956. The Tournament had managed to survive on the year-to-year basis because Tournament alumni sought to perpetuate it; yet, there was a feeling that something else was needed to insure the Tournament's future growth and development. Laura Huelster, chairman of the Department of Physical Education for Women, The University of Illinois, called an informal meeting to discuss the matter at an intramural conference in Washington, D.C., in November, 1955. Those present at the meeting were representatives of three organizations: American Association for Health, Physical Education, and Recreation, Athletic Federation of College Women, and National Association for Physical Education of College Women. Although the group did not have the power to act, it did locate colleges to sponsor the 1956 and 1957 Tournaments. Purdue University had previously agreed to hold the 1956 event and the University of Illinois agreed to hold the 1957 Tournament.

Development of Tournaments

A committee of eight women representing AAHPER, ARFCW and NAPECW (Nancy Porter, June McCann, Sara Staff Jernigan, Dorothy Wirthwein, Mary Jean Mulvaney, Joan Huesner, Rachel Bryant, Ellen Griffin) met at Purdue in June, 1956, and drafted plans for the continuation of the National Collegiate Golf Tournament for Women. The group, henceforth known as the Tripartite Committee, formulated administrative policies which, with a few exceptions, have guided the Tournament to the present time.

It was decided that the Committee should hold annual meetings at the Tournament site. An outgrowth of the 1957 meeting was the establishment of a Tripartite Council which was to study the general area of extramural sports for college women. As a result of action taken in June, 1958 by the parent groups, this group was authorized

to function as the National Joint Committee on Extramural Sports for College Women. It was to work through subcommittees responsible for designated problem areas and the development of competitive opportunities in various sports. The old golf committee became such a subcommittee known as the Tripartite Committee on Golf for College Women. The committee continued to establish definite policies relative to the Tournament and explored the possibility of other extramural golf events for women as well. Among its duties regarding the Tournament were selecting the hostess college two years in advance; annually reviewing and, if necessary, revising the handbook which guided hostess colleges in the conduct of the Tournament; and generally tending to the administrative affairs of the Tournament.

The Committee successfully guided the Tournament until 1965 when another turning point was reached. In that year AAHPER, ARFCW and NAPECW voted to disband the NJCESCW whose responsibilities were assumed by DGWS. DGWS recognized that the time had come for the establishment of a national organization which could direct all of its energies toward guiding and controlling intercollegiate athletics for women. The Commission on Intercollegiate Athletics for Women was to assume this purpose.

The status of the Tripartite Golf was dubious at this point. The NJCESCW was now defunct, but the Commission had yet to be established; consequently, there was no existing body to which the Committee could report. However, it did continue work independently in administering the Tournament until DGWS established another structure. The Collegiate Golf Committee was later recognized as a vital body by DGWS and as of 1969, its definite structure and purposes were in the process of being finalized. It was to serve in an advisory capacity and as a policy-making group to the Tournament; in addition, it was to promote other intercollegiate golf events throughout the country.

The various golf committees throughout the years were and continue to be, responsible for perpetuating a distinct Tournament tradition through the implementation of the various policies. A handbook for hostess schools and tournament reports is submitted to each hostess school. Invaluable as well in this regard are the Tournament evaluations, solicited since the beginning, and completed by each contestant. Many of the suggestions offered by the participants have been incorporated throughout the years.

The structure of the Tournament has remained essentially unaltered since it began in 1941. Both an individual champion and a winning team composed of two representatives from each school are determined; moreover, individual flight winners are recognized as well. Other special golfing events also have been offered for the

contestants. The 1971 Tournament at The University of Georgia, Athens, saw the first major change in that it departed from the traditional match play. The 1971 Tournament was a 72 hole medal play event.

Awards have been presented to winning contestants since the beginning, and recently, DGWS standardized the awards which are given to the winners of all DGWS championships.

Two rotating awards, the Gladys E. Palmer Trophy and the Mrs. Stewart Hanley Trophy, distinguish the Collegiate from other DGWS championships. The Palmer Trophy, a 12-inch silver Revere bowl, is presented to the winner of the Championship Flight each year. It was purchased with a fund collected by friends of Gladys Palmer in recognition of her leadership in initiating and conducting the Tournament. The Palmer Trophy replaced the Ohio State Rotating Trophy, the first Tournament Trophy, which was retired in 1958.

The Hanley Trophy, first presented in 1962, is a traveling trophy similar to the Palmer Trophy and is awarded to the representative institution for the team championship. It was the result of a gift by an anonymous donor in honor of Mrs. Hanley's service to golf at the University of Michigan and her participation in international team matches.

Tournament Traditions

Much of the tradition of the Tournament is a reflection of the philosophy of its first sponsors, Gladys Palmer and her staff at Ohio State. The first Tournament Committee made every effort to insure that the Tournament would be an educational experience for the contestants. It attempted to provide opportunities for development of sportsmanship both on and off the golf course. Thus, it housed the contestants together in a dormitory and planned numerous social events during the week of the Tournament. Since the Committee knew that many of the girls were to receive their first competitive golf experience in the Tournament, it attempted to assist them in learning how to compete properly. The Committee was trying to impress upon the girls that the Tournament could be fun regardless of whether they won or lost a match. The social activities and extra golf events were included to encourage the contestants to stay after they had lost.

Thirty years have elapsed since the first Tournament and the many social changes witnessed by this span of time are found reflected in the Tournament. Inflation alone has forced an increase in the entry fee from 5 to 25 dollars for each participant. More important, however, have been the expanded development of intercollegiate opportunities for women and the corresponding increase in participation. The purposes of the Tournament have

remained essentially as they were in 1941. The Collegiate continues to provide an opportunity for college women to compete with those of like ability and interests. Although the number of planned social activities has been reduced, there are still gatherings of the contestants and the banquet is regarded by many as the highlight. Whereas the Tournament has always catered to the highly-skilled golfers, it is presently moving in the direction of increased selectivity. In the past, the Collegiate served as an introduction to tournament play for many girls who had little or no such experience. However, this has changed in recent years with the advent of a large field of low handicappers. It is hoped that proposed regional tournaments will provide the girls of lesser ability with suitable competitive experiences.

Perhaps the pioneering efforts of Gladys E. Palmer and her dedicated staff in sponsoring a tournament which was national in scope were ahead of their time. While they may not have proved that 1941 was the right time to resume competitive opportunities for college women, they did succeed in demonstrating that it was possible to conduct a tournament under the highest possible standards and beyond reproach. Professional leadership later recognized the inherent values of such competition which they saw could be an educational experience. The Tournament, then, conducted by the professional leadership, has served as a successful guide to other competitive opportunities for college women ever since.

Past Tournament Sponsors and Winners

Tournament Sponsors	Winners
1941–Ohio State University	Eleanor Dudley, University of Alabama, University
1946–Ohio State University	Phyllis Otto, Northwestern University, Evanston, Ill.
1947–Ohio State University	Shirley Spork, Michigan State University, East Lansing
1948–Ohio State University	Grace Lenczyk, John B. Stetson University, DeLand, Fla.
1949–Ohio State University	Marilynn Smith, University of Kansas, Lawrence
1950–Ohio State University	Betty Rowland, Rollins College, Winter Park, Fla.
1951–Ohio State University	Barbara Brunning, Wellesley College, Wellesley, Mass.
1952–Ohio State University	Mary Ann Villegas, St. Mary's Dominican College, New Orleans, La.

1953–Women's College, Univ. of North Carolina	Pat Lesser, Seattle University, Seattle, Wash.
1954–Women's College, Univ. of North Carolina	Nancy Reed, George Peabody College, Nashville, Tenn.
1955–Lake Forest College	Jackie Yates, University of Redlands, Redlands, Calif.
1956–Purdue University	Marlene Stewart, Rollins College
1957–University of Illinois	Meriam Baily, Northwestern University
1958–Iowa State College	Carol Pushing, Carleton College, Northfield, Minn.
1959–University of North Carolina	Judy Eller, University of Miami, Miami, Fla.
1960–Stanford University	JoAnn Gunderson, University of Arizona
1961–University of Michigan	Judy Hoetmer, University of Washington
1962–University of New Mexico	Carol Sorenson, Arizona State University
1963–Pennsylvania State University	Claudia Lindor, Western Washington State
1964–Michigan State University	Patti Shook, Valpariso University
1965–University of Florida	Roberta Albers, University of Miami
1966–Ohio State University	Joyce Kazmierski, Michigan State University
1967–University of Washington	Martha Wilkinson, California State College at Fullerton
1968–Duke University	Gail Sykes, Odessa College
1969–Pennsylvania State University	Jane Bastanchury, Southern Illinois University
1970–San Diego State College	Cathy Gaughan, Arizona State University
1971–University of Georgia (72 Hole Medal)	Shelley Hamlin, Stanford University, Individual Winner; UCLA, Team Winner
1972–New Mexico State University	

Editor's Note: The next two articles, "Indoor Golf Tests" and "Self-Testing–How Do You Measure Up," cover indoor and outdoor aspects of teaching. A teacher can get ideas from both to meet her testing needs.

Indoor Golf Tests

ANDREA HAUGE

Andrea Hauge received her B.A. degree from St. Olaf College, Northfield, Minnesota and her M.S. degree from the University of Colorado, Boulder. While a teaching fellow in Boulder, she developed the tests in this article which she has used for indoor golf classes in a variety of high schools and colleges around the country, most recently at Lock Haven State College, Lock Haven, Pennsylvania. Andrea Hauge is the Golf Guide chairman-elect for 1972-74.

When golf is taught in an indoor setting, a special degree of patience and imagination is required to keep the students interested and challenged. First, they must develop a consistent swing. Second, they must try for accuracy. Even in limited indoor space it is possible to aim and to measure one's success. Targets are a natural device for such practice.

At the University of Colorado, golf was taught in an indoor setting during the winter term. To provide motivation for practice and accuracy, and to aid in evaluation of the student's ability, two target type tests were divided, one for the drive and another for the pitch shot. Plastic balls with holes were used throughout the instructional period and testing.

Drive

The target area for the test of the drive may be taped or drawn on a wall used for rebounding balls during practice (Figure 1). The target area is 18 feet wide, 9 feet high and is placed 18 inches off the floor. Balls are hit from 25 feet away from the target. The club used during development of the test was a No. 2 wood, and balls were hit from a rubber practice tee. Numbers in the spaces of the target indicate point values scored by hits in those spaces.

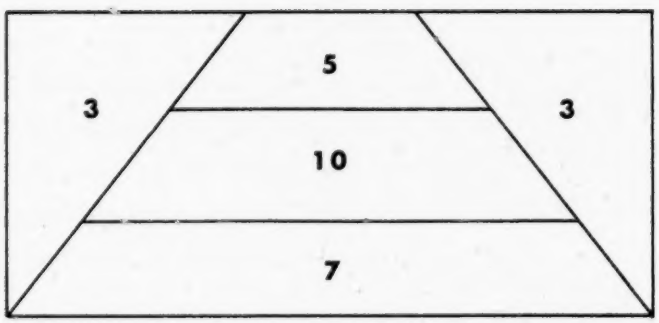

Figure 1.

Pitch

About 6 feet of floor space is required for the concentric circles of the target area for the test of the pitch (Figure 2). Radii of each circle from the center out are 9 inches, 31 inches, 53 inches, and 75 inches. Balls are hit from a rubber or cocoa mat placed 28 feet from the outside circle. A No. 8 iron was used for this test. Distance from the targets may be altered to match the students' skill level, or the space available.

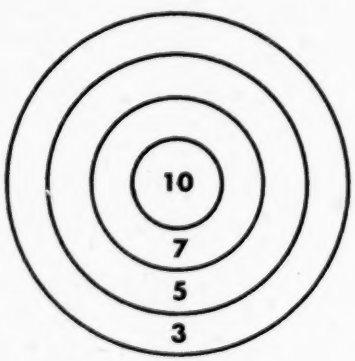

Figure 2.

Instructions for Testing
(Both targets)

1. The target is the area on the wall, outlined, with numbers showing the value of the areas.
2. Aim carefully and hit, in turn, twenty plastic balls at the target, trying to hit the 10-point area.
3. The number of the area in which each ball hits will be recorded on your score card.
4. Should you miss the ball, swing at it again. Each swing will count as a trial.
5. You are allowed as many practice swings as you like, but only one practice trial with a plastic ball.
6. Begin when you are ready.

The point value for each hit is recorded on a score card, and totaled for a final score.

Most students need to be able to see results in some objective way to keep an interest in practicing a skill. Give them a target or two and note a renewed interest in the form that can give them the results they want, as well as the scores themselves. When they score in the high numbers consistently, move them back from the target. On the course the straight drive and the accurate approach are mainstays of a woman's game.

Self-Testing—How Do You Measure Up?

LYNNE GASKIN
NANCY PORTER

Lynne Gaskin is a graduate of Wesleyan College in Macon, Georgia, and received her M.S. degree from the University of North Carolina at Greensboro. Nancy Porter received both the B.S. and M.Ed. degrees from the University of North Carolina. Both women are instructors at the University of North Carolina.

Effective skill testing promotes learning. The benefits of self-testing are apparent—students administer and score the tests and their knowledge of results is immediate. Each student learns as she performs and has some objective means by which to evaluate her own performance. When these self-testing situations are included at intervals, they can serve as motivating factors, enabling the student to identify her progress. Since practice is another goal of self-testing, these activities then become a part of the instructional program rather than formal testing sessions. The same events also may be used as an objective means of evaluation at the end of the semester. In this sense, the final test is viewed by the students as a continuation of familiar self-testing activities.

In keeping with these goals, activities for each of the three basic skills have been devised which are realistic, administratively simple, and suitable for large groups.

Full Swing

The event for the full swing measures both distance (ball flight plus roll) and accuracy. The scoring values, as shown in Figure 1, are for the No. 5 iron. However, the same area with adjusted zone scores can be used when hitting with other irons. By extending the hitting area to include more zones and adapting the scoring procedure, this event also might be used with men students and/or more advanced players.

Figure 1 is a diagram of the testing area; it is also the scorecard on which a student charts his partner's shots. Twenty balls are hit from the ground. The student hits the first 10 balls from any one of the numbered positions on the scorecard and then moves to the other position with the same zone number to hit the second ten balls.

The scoring area for each student is the lane directly in front of him. The flag in his lane is simply a directional marker, probably of most importance to the outside hitters (positions 1 and 5 or 6 and 10).

Figure I: Scorecard
(This is also a diagram of the scoring area)

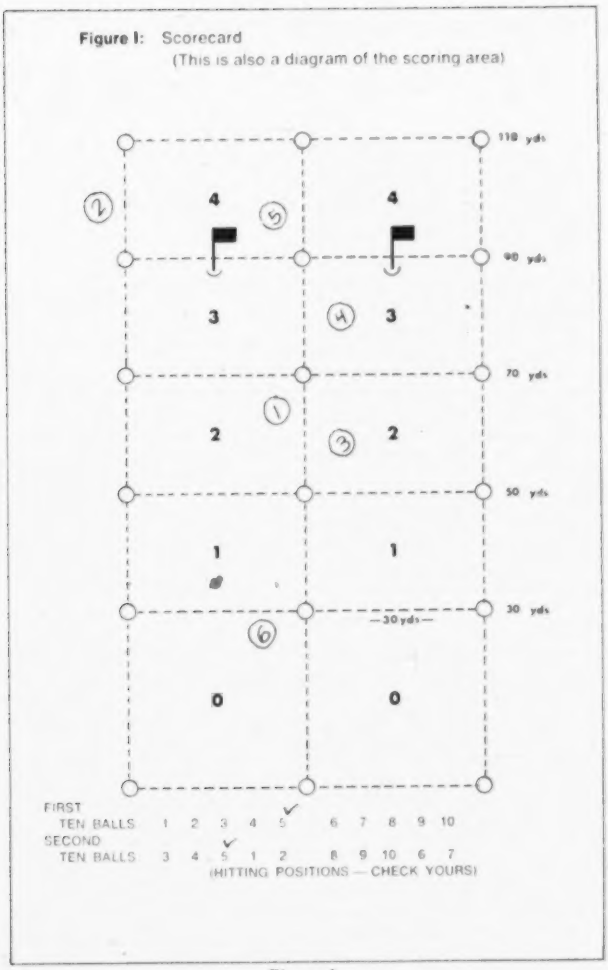

Figure 1.

Each ball is scored according to the zone (0-4) in which it stops rolling, except for the following:

1. Any ball that stops outside the lane is given half the score of the adjacent zone.
2. Any ball that does not carry over the zero zone is scored as "0" regardless of where it rolls.
3. Any ball that is swung at and missed is scored as 0. A ball that stops beyond zone four is scored as 4 (or a score of 2 if the ball is "wide"). Balls stopping on a boundary line are given the higher score.

A partner, standing with the player, scores by charting the spot where each of the 20 balls stops. For example, in Figure 1, a player hits from position 5 in the left lane.

Ball 1 = score of 2	Ball 4 = score of 1.5
Ball 2 = score of 2	Ball 5 = score of 4
Ball 3 = score of 1	Ball 6 = score of 0

After his first ten balls, he changes positions for the second ten.

The self-testing event for the full swing meets the criteria concerning class time, scoring, and field markings. Classes of 20 can complete the test in 40 minutes including instructions and ball shagging. When designing the scoring zones, an attempt was made to keep these at a minimum and yet be able to discriminate among levels of performance. Twenty-yard intervals seem to serve this purpose. The rule that all balls must carry over the zero zone in order to receive any score demands some measure of skill in ball contact; at least it penalizes badly topped shots. The length of this zone from the hitting area was empirically determined to be 30 yards.

Having concluded that 90 yards perhaps represents a respectable distance for a novice 5-iron shot, the deliberate decision was made not to extend the scoring areas to 5, 6, etc. (Figure 1). While greater distance has merit if accompanied by accuracy, the beginning player faced with greater distance can choose a longer club.

The lane width of 30 yards was thought to be a minimum for accuracy at a distance of 90 yards; therefore, a decision was made to give some credit for balls that went to the right or left of the lane. Half-score for such balls was an arbitrary choice. This method of scoring for accuracy seems to be discriminating enough for this level of skill.

In marking the target area the lanes and zones were outlined with 18 3-foot flagsticks placed at intersections of lane and zone lines. In order that the testing area could appear and disappear within five minutes, pipes to hold the flags where countersunk at these intersections. Lime lines were unnecessary as the flags were adequate indicators of the areas, and the students apparently had little

difficulty judging and charting the balls. The flagsticks shown in Figure 1 in the rear segment of lane 3 are directional targets.

Putting

The 9-hole putting event consists of 3 holes played from a distance of 6 feet, 3 from 12 feet, and 3 from 18 feet. The order of the holes (with respect to length) is randomly established by the instructor or students. The random order is more game-like than any specified sequence of distances. Score is the nine-hole total.

Pitch-and-Run Shot

Any green may be used for this event, so long as the cup is set in the approximate center. The fact that different greens vary in contour is game-like, and reading the green is a part of the pitch-and-run shot. Therefore, a standard situation is not vital to this event and several greens may be used if available.

Ten balls are hit from a distance of no more than five yards from the green with a No. 7 iron. (This distance could be altered and a No. 9 iron used.) If the ball *does not initially land on* the green, a score of zero is recorded by a partner. If the ball *lands on* the green and then *rolls off*, the score is one. If the *ball lands* on the green and stays on the score is two. if the ball *lands on* the green and *stops within a flagstick's length* from the hole, the score is four. Each student hits ten balls and his score is the total of ten trials. Four or five players might hit to the same green at once. Their partners stand on the sides of the green to score and stop the players momentarily as needed to measure or remove balls in the way.

Summary

Squads within large classes might rotate among three events or an individual might select to practice his weaknesses as he sees them. The merit in these events lies in the fact that they represent a compromise between supervised practice, reinforced only by a teacher's comment, and a highly formalized testing situation in which more elaborate markings and precision-scoring are usually a part. These events are sufficiently structured to determine ranges of performance from which the student, as well as the teacher, can see "how he measures up".

Success for the Beginning Golfer

MARGO L. ANDERSON

Margo Anderson is presently teaching at the State University of New York at Binghamton. She completed her B.A. degree at St. Olaf College, Northfield, Minnesota and received her M.A. degree from The Ohio State University, Columbus, Ohio.

In order to play golf, one must be able to hit the ball and advance it toward the target. Unfortunately, the matter is not as simple as it sounds, for the ball must first be hit and then advanced with both control and accuracy. There are these three specific challenges in golf: (1) hitting the ball; (2) advancing the ball; (3) advancing the ball with control and accuracy.

Problems of the Beginner

When the beginner fails to contact the ball after the first several attempts, a curious pattern follows. The extreme end result of that pattern is the destruction of the very swing the beginner is attempting to build. As the frustration mounts with each successive miss, so does the tension. Although a certain amount of muscular tension is necessary, the type experienced by the beginner makes efficient execution of the swing impossible. The club is gripped tightly and the entire body stiffens; the tempo and rhythm of the swing also begin to deteriorate so that eventually all timing is lost. The beginner is so obsessed with hitting the ball that the swing becomes both fast and hard. Even if the ball were hit at this time, it probably would not be struck cleanly. And if it were, the beginner might possibly be so reinforced by her efforts that she would repeat all successive swings in the same manner.

The phenomenon of "trying too hard" is the root of this pattern. If the challenge is too great, the opportunities for success are minimal. If continually frustrated in her attempts at success, the beginner will try even harder or view the goal as an impossible task and quit. If the entire process is carried to an extreme, it can only lead to a psychological barrier thwarting further learning. To prevent this from occurring, one must first recognize the causes of the frustration and then work to keep them at a minimum by providing opportunities for success. This means that the instructor must be aware of the beginner's immediate goal: to hit the ball.

All three of the beginner's goals (hitting the ball; advancing the ball; advancing the ball with control and accuracy) are obviously interrelated, for a well executed swing will accomplish all three. A

beginner does not always see this relationship as it applies to her own swing; rather, she perceives three separate entities which occur in a sequential pattern. She realizes that she cannot succeed in meeting all three goals at once, but she would at least like to be successful at one. She, therefore, focuses her complete attention on that goal which is most challenging to her.

No person can entertain a variety of thoughts at any one time and still accomplish something. A beginning golfer who is concentrating on contacting the ball cannot perform the swing while thinking about the position of her head, hands, wrists, arms, hips, knees and feet and about the position of the club as it travels through its arc. If she were to manifest the intense concentration necessary for such a feat, her swing at best would resemble the pattern of her thoughts. The beginner cannot think of everything; in fact, the fewer things she has to think about the better.

During the initial phases of instruction, the beginner's fate is really in the hands of the instructor. An instructor who is cognizant of the beginner's goal can alleviate much of the frustration. The instructor must first isolate the source of the problem which hinders the student in achieving her goal. The instructor must avoid being overly critical and offer only those corrections that apply to the problem. In this way he allows the beginner to concentrate on one thing at a time. Here, then, is a separate treatment of each of the beginner's three goals with corrections specific to these goals:

Hitting the Ball

No golf ball will ever be hit well if the golfer slashes at it. The old adage of "just meet the ball" is very true in this regard. The concept of an easy swing is most important during the initial phases of instruction and beyond as well; power will always accompany an easy swing if executed properly. An easy swing does not connote one that is executed in slow motion; rather, it is one that is natural and in no way forced. Beginning golfers must be constantly reminded to practice swings that are neither forced nor overly fast.

"Meeting the ball" is not always enough, for one must "stay down on the ball" as well. Those people who fail to contact the ball either do not look at it or pull away from it at impact. The former is easily diagnosed while the latter is more subtle and usually is caused by a failure of the knees to work properly as the swing is completed. In order for the ball to be hit cleanly, the knees must remain slightly bent during the crucial moment of impact thus allowing the upper body to maintain its position over the ball.

If the head stays down and if the knees remain slightly bent, the ball should be struck. If it is still missed, attention should be focused on the swing itself. A dropping of the right shoulder on the

downswing will cause the golfer to hit behind the ball thus hitting it "fat" or even missing it. When the shoulder is dropped, the arc in which the club is traveling is shortened. The club is much closer to the ground which is evident at impact when the club first contacts the ground rather than the ball. In extreme cases, it becomes impossible to continue the swing any further.

Advancing the Ball

The trajectory of most golf shots is a lofted one, but a majority of beginners have difficulty in hitting the ball into the air. They do not succeed in getting under the ball because they either top or blade the ball. Failure to hit the ball cleanly can be caused by a number of factors including the three already mentioned: looking up, pulling away from the ball, and dropping the right shoulder. Sometimes, the problem can be attributed to a hooded club head at impact. The difficulty can also lie in the swing itself.

At the outset, instructors should emphasize the fact that the club is swept through the hitting area at the start of the backswing and continuing into the follow-through. A line starting from well behind the ball and extending toward the target should either be drawn on the hitting surface or imagined by the golfer. As the swing is executed, the club head should then stay along this line for as long as possible. Beginners sometimes find this difficult because they pick up the club as the backswing is started. They then bring the club into the ball in a similar manner so that the swing resembles a hacking or chopping motion. Likewise, they often raise the club on the follow-through just as the ball is struck. Whatever the case, the club contacts either the top or side of the ball.

The positioning of the ball in the stance can also be a factor causing unlofted shots. Poor positioning can result in the club head striking the ball at the wrong moment in the downswing. Playing the ball farther ahead in the stance can prevent this problem. The ball should be played off the inside of the left heel and even farther ahead if necessary in extreme cases. Although the ball's position often changes according to the specific club being used, it is often better for beginners to play each ball in the same place regardless of the club in use. This gives the beginner one less thing to think about and also provides him with a constant pattern which is repeated prior to each swing.

Advancing the Ball with Control and Accuracy

This is the eternal quest of all golfers and it is never attained to one's total satisfaction. However, this is not to say that it is beyond the realm of the beginner's ability, for he will become concerned when he is ready. After he is able to advance the ball with little

difficulty, he will want to know where it goes, and he will ask why the ball goes astray if the reason has not already been brought to his attention.

There are several basic factors which can cause the directional problems encountered by the beginner. A faulty grip is, perhaps, one of the major causes of these difficulties. Another involves the wrists. Some beginners rotate and flex the wrists at the top of the backswing. This makes it extremely difficult to bring the club head into the hitting areas in the proper manner.

A cause of some of these problems can also be found in the position of the club head at impact. A club head that is either too open or too closed can cause the ball to deviate from its intended target.

Many of the directional problems plaguing the beginner can also be attributed to a basic inability to bring the club head straight back and straight through the hitting area. Consequently, it is important that the beginner understand and become aware of the concept of straight through the hitting area as it applies to his own anatomy. This cannot be emphasized enough, for a straight swing will help obviate the most common and minor of directional problems experienced by beginners, pulling and pushing the ball.

The root of some directional problems often lies in one's body position and alignment toward the target. Beginners should always be urged to practice in relationship to some target whether it be an intersection of lines on a gymnasium floor or a tree outdoors. Moreover, targets should be frequently changed to insure continued concentration on alignment.

Importance of the Basics

A sound knowledge of these fundamentals might prevent many problems from occurring. It is advisable to review the basics periodically in order to reemphasize their importance. A comfortable position of address is a preparation for every swing and prior to each swing the beginner should be urged to check the following items: resting position of the club head, grip, stance, posture, and alignment toward the target.

The main aspect of the instructional sequence, the swing, often poses as a dilemma to the instructor, for he is confronted with a choice: what swing should he teach with what club? Because the beginner's immediate objective is to hit the ball, it might be better to introduce first a short swing using a short or middle iron. This method lessens the difficulty of hitting the ball, but at the same time, it affords the beginner an opportunity to master those concepts which are an integral part of every swing. Whatever method is decided upon, the beginner should be led into the full swing as soon as possible.

Instructors commonly teach for the attainment of predetermined goals designated as the outcomes their students will hopefully acquire after completing the course. An ability to perform the swing is rated as the most important item on a listing of such goals in golf. Unfortunately, an ability to perform the swing does not always imply an ability to hit the ball. Because of this discrepancy, it might be better to emphasize the latter in the priority of goals. This will allow the beginner to attain success; and, at the same time, it will aid him in building a sound swing. For if a golf ball is hit cleanly, it will be the result of a good swing.

Women – and Golf

LAVERNIA JORGENSEN

Lavernia Jorgensen received her B.S. degree from River Falls State Teachers College, her M.Ed. from the University of Minnesota and her P.E.D. from Indiana University, Bloomington. While being active in many aspects of her profession, she has long promoted golf for women.

If one were to take a realistic picture of women who pursue the wonderful game of golf today, what factors would be apparent? A composite picture would perhaps reveal that the woman:

is 50 years old
averages a score of 100 and up for 18 holes
is single or married with grown children
is a member of the country club
belongs to the middle or upper income group
is more interested in social than competitive golf
participates once a week on ladies day
often desires better skills.

There is a second composite picture of a woman *not* generally found on the golf course but who desires to be there. This woman:

is 20 to 30 years of age
is single or a housewife with pre-school age children
has few social connections
may possess some or no golf skills
desires to play an occasional game with boyfriend or husband
has a tight recreation budget
fears she cannot conquer the complex game of golf.

Both of these pictures ought to disturb all women – physical educators and recreation leaders in particular. Yet, despite the popularity and prestige of the game of golf, there are many factors which negate participation.

Age Factor

What are some of the problems that hinder the promotion of golf play among women? Unless the skills and complexities of the game are learned at an early age, the courage to try decreases as one grows older. Even the college-age woman will drop the course if she feels she cannot meet minimum standards of skills expected by the instructor. Many who complete the course still lack the confidence to tee-off in public once they leave the sanctuary of the class situation. To compound the problem in the area of skill, even though women may learn how to play in the physical education class

or recreational setting, many give up the game after a few years when playing ability does not improve measurably, ability remains mediocre, or ability regresses. The fact that she does not improve could be caused by many factors beyond her control, such as lack of time to practice, lack of money for driving range or course fees and professional instruction, poor equipment, difficult golf courses, and exclusion from many courses except at specified times inconvenient to her.

Financial Factor

This financial factor also prohibits participation for women. Let's face it – golf is expensive! The initial cost of equipment may be considered small by some and great by others. The selection of a beginner's set may mean possession of inferior equipment. Not all women can afford the costs of membership in the country club or municipal group. Yet, these are the groups she almost has to join in order to participate on a regular basis. Even if she can afford to join, there are additional costs. The woman with young children must pay baby sitters and career women may pay a substitute, take a cut in pay, or use vacation time. Most women are rather conservative as spenders of time and money, especially if they are guardians of the family budget.

Social Milieu Factor

Problems in the social milieu should be considered the third major area of concern for those interested in the promotion of golf for women. Few individual women golfers are found on golf courses, even though golf may be termed an individual sport activity. To be sure, lone golfers are seldom welcomed on busy golf courses. Many courses rule that only foursomes play on the weekend. Others set aside specific days for ladies to play and do little to encourage them to participate the rest of the week.

The individual is almost forced into the group situation whether she desires it or not. For many women the group situation is much more desirable. At times the group may be the chief motivator and the only reason women participate. Golf is a social game and can act as a wonderful catalyst among a group of women with diverse interests, skill, and background. It will serve this function for many as long as it remains social, satisfying, and refrains from gravitation toward the professional types of competition.

Future of Women Golfers

This is the realistic picture of women in golf in the new decade of the '70s. It should disturb women physical educators and recreation

leaders. It should tell us that the prestige of the game is not enough to carry it to heights of participation it should provide for women. The picture should make us ponder and desire to change situations as well as eliminate deterrents.

It does seem that women golf instructors have solved the problems of method, lesson plans, motivation (i.e. coed classes) diagnosis, organization, and administration. We can teach golf and do. Women learn and do play. However, does instruction reach women too late? MacKenzie stated:

> It is traditional to teach such activities as golf and tennis during the high school years. My experience, however, reveals that elementary school children are interested in and capable of acquiring knowledge in these activities and, more importantly, that they enjoy playing them. These activities belong in the elementary school curriculum.[1]

Let us cease finding excuses *not* to teach golf at any level. Our physiological and psychological knowledges should tell us that it may be too late for many adults to learn the complex skills necessary for a confident game. We do possess the influence and power to introduce the game at the elementary age level – be it in the school or municipal recreation setting. Nonparticipation at a later age could not then be on the familiar basis: "I don't know how to play and I'm too old to learn."

We cannot solve the problems of finance, ability, or participation for any one individual woman golfer. However, one can and should investigate the situation in one's own community and use the persuasive power that women do possess and sometimes seldom use. Pressures can be applied and solutions to problems found if faced in a constructive manner. Two suggestions are given below which merit consideration and investigation:

1. Women do share in the expense of the construction of a new golf course–be in municipal or the country club. Is there any good reason why the objectives of men should prevail for a course meant to attract tournament golf or why women's ideas should be refuted? Many women do not possess the time or stamina to traverse the long course, the skill to cope with numerous hazards, nor the time to seek lost balls in the jungle of the huge rough. Even the less difficult course can defeat many before the tee-off on the first hole. The game ceases to provide satisfaction when the obstacles are too difficult to overcome. What is so sacred about one "ladies day" per week? Must green fees be so prohibitive? Why not a lighted course so one could participate after sundown? Why not "baby sitting" services such as many bowling alley establishments provide?

[1] MacKenzie, Marlin M. *Toward A New Curriculum in Physical Education.* (New York: McGraw-Hill, 1969). p. 3.

2. Perhaps more leadership should be exhibited in the municipal recreation setting. More opportunities for inexpensive instruction and practice could be provided by the recreation department. The imagination and creative ability of recreational leaders could provide opportunities that would excite, challenge, and offer variety for the women beyond the often dull "ladies day." Why do we find so few women's golf leagues, women's leagues organized into ability grouping, and mixed league play?

These questions and suggestions are only a few samples of conditions that can and need to be changed or implemented. In turn, deterrents to participation in terms of finance and the social might vanish and other problems be resolved. Why be content with the status quo? Use your "woman power!"

Annotated Golf Bibliography

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TEACHING, COACHING, AND STUDENT REFERENCES

The following books and articles have been written expressly for the Teacher (T), Coach (C), and Student (S).

Adams, Ronald. "Putt Putt Golf–Programs for the Handicapped." *Journal of Health, Physical Education, Recreation* 42 (March 1971), pp. 48-50. Includes diagrams of facilities, equipment needs for teaching putting game to physically disabled students. (T)

American Association for Health, Physical Education, and Recreation. *Ideas for Golf Instruction.* AAHPER, 1201 16th St., N.W., Washington, D.C. 20036. 1968. 57 pp. Ideas for organizing, planning, teaching, evaluating, and improvising in large school golf class. (T)

Barnes, Mildred J. et al., *Sports Activities for Girls and Women.* Appleton-Century-Crofts, 440 Park Ave. So., New York, N.Y. 10016. 1966. Golf section, pp. 202-225. The game, equipment, terms, basic skill techniques, error analysis, rules, etiquette, references. (S)

Broer, Marion R. *Efficiency of Human Movement.* W.B. Saunders Co., W. Washington Sq., Philadelphia, Pa. 19105. 1966. Golf section, pp. 252-272. Application of basic mechanical principles of fundamental physical skills. (T)

Bruce, Ben and Davies, Evelyn. *Beginning Golf.* Rev. ed. Wadsworth Publishing Co., Belmont, Calif. 94002. 1968. 58 pp. Wadsworth Sports Skills Series. Values, history, equipment, techniques of participation, rules, self-improvement, glossary, self-evaluation, bibliography. (S)

Cheatum, Billye Ann. *Golf.* Philadelphia: W.B. Saunders Co., 1969. 116 pp. Saunders Physical Activities Series. History, equipment, basic skills, rules, strategy, etiquette, glossary, references. (S)

Crogen, Corrine A. *Golf Fundamentals.* National Press, 850 Hansen Way, Palo Alto, Calif. 94300. 1964. 83 pp. history, funda-

mentals, skills, equipment, techniques for the novice golfer, competition, terms, rules, etiquette, techniques for the experienced golfer, hints for the Sunday golfer. (T,S)

Dypwick, Otis. *Golf.* Creative Educational Society, 515 N. Front St., Mankato, Minn. 56001. 1962. Creative Sports Series. (S)

Hicks, Betty and Griffin, Ellen. *Golf Manual for Teachers.* C. V. Mosby Co., 3207 Washington Blvd., St. Louis, Mo. 63141. 1949. 312 pp. Golf and the physical educator, the game, problems of group instruction, theory of swing, teaching techniques, error correction, supplemental exercises, rules, glossary, bibliography. (T)

Keister, Walter S. *The Keister Team Golf Score Book.* Colonial Printing House, 101 N. Third St., Lewisburg, Pa. 17837. A practical scorebook for record-keeping of golf team performance. (C)

National Golf Foundation. *Golf Instructor's Guide.* NGF, 707 Merchandise Mart, Chicago, Ill. 60654. 87 pp. 60+ illus. Teaching of golf skills utilizing individual and group methods of instruction; equipment and facilities; special materials; bibliography. (T)

National Golf Foundation. *Golf Lessons.* Chicago: NGF, 1970. 44 pp. 100+illus. Student reference and companion book to *Golf Instructor's Guide.* Equipment, basic skills, rules, terms, etiquette, playing a golf hole, practice checkpoints, personal golf records. (T)

National Golf Foundation. *How to Improve Your Golf.* NGF, Chicago: 1964. 196 pp. Reproduction of 35 mm slidefilm series by NGF. Pictorial analysis of basic skills, etiquette, history, terms. Also available through The Athletic Institute, Merchandise Mart, Chicago, Ill. 60654 as part of *How To Improve* series. (T)

Zanger, Jack. *Exercises for Better Golf.* Ridge Press, 17 E. 45th St., New York, N.Y. 10017. 1965. (S)

POPULAR READING

The following supplementary books are written to increase the amateur golfer's playing and knowlege of the game.

Armour, Tommy. *How To Play Your Best Golf All The Time.* Simon & Schuster, 630 5th Ave., New York, N.Y. 10020. 1953.

Bell, Peggy Kirk. *A Woman's Way to Better Golf.* Bantam Books, 666 5th Ave., New York, N.Y. 10019. 1966.

Burke, J., Jr. et al. *How To Solve Your Golf Problems.* New York: Grossett & Dunlap, 51 Madison Ave., New York, N.Y. 10010. 1963.

Cranford, Peter G. *The Winning Touch in Golf, A Psychological Approach.* Englewood Cliffs, N.J.: Prentice-Hall, 1961.

Hogan, Ben. *Five Lessons. The Modern Fundamentals of Golf.* Cranbury, N.J.: A. S. Barnes & Co., 1957.
Michael, Tom and Editors of Golf Digest. *Golf's Winning Stroke: Putting.* Golf Digest, Inc., 88 Scribner Ave., Norwalk, Conn. 06856. 1967.
Novak, Joe. *Golf Can Be An Easy Game.* Englewood Cliffs, N.J.: Prentice-Hall, 1962.
Snead, Sam. *Sam Snead on Golf.* Englewood Cliffs, N.J.: Prentice-Hall, 1961.
Wind, Herbert W. *Tips From the Top.* Englewood Cliffs, N.J.: Prentice-Hall, 1962.
Wright, Mickey. *Play Golf the Wright Way.* Garden City, N.Y.: Doubleday & Co., 1962.

BOOKS FOR CHILDREN

Golf Digest Editors. *Better Golf for Boys.* Dodd, Mead & Co., 79 Madison Ave., New York, N.Y. 10016. 1965. A well illustrated book for grades 4-6.
Sherman, James W. *Joey Gets The Golf Bug.* Boston, Mass.: Little, Brown & Co., 34 Beacon St., Boston, Mass. 02106. 1961.

RULES/ETIQUETTE/COMPETITION

Hermanson, Roger H. *The Rules of Golf in Programmed Form.* Professional Golfers Association of America, Box 12458, Palm Beach Gardens, Fla. 33403. 1968. Content is based upon 1967 rules; however, its unique format, which programs the readers' learning of the rules, warrants attention.
National Golf Foundation. *Competitive Golf Events.* Chicago: NGF, n.d. 23 pp. Eighty special events; methods of handicapping participants and conducting tournmaments.
National Golf Foundation. *Easy Way to Learn Golf Rules.* Chicago: NGF. Current year. 84 pp. Pocket-size booklet, simplified illustrated explanations, USGA-approved.
United States Golf Association. *The Rules of Golf.* USGA, 40 E. 38th St., New York, N.Y. 10016. Current year. Complete official wording of golf rules. Available in small booklet or hard cover book.
United States Golf Association. *Golf Rules in Pictures.* New York: USGA. Current year. 96 pp. 8½ x 11" illustrated reference.

HISTORY

America's Golf Book. *Editors of Golf Magazine.* Charles Scribner's Sons, 597 5th Ave., New York, N.Y. 10017. 1970.
Cheatum, Billye Ann. "A History of Selected Golf Tournaments for Women with Emphasis Upon the Growth of the Ladies Profes-

sional Golf Association." Ph.D. dissertation, Texas Woman's University, 1967.
Gibson, Nevin. *A Pictorial History of Golf.* Cranbury, N.J.: A.S. Barnes & Co., 1968.
Golfer's Digest. Chicago: Golfer's Digest Association. Current year. Deluxe edition, The encyclopedia for all golfers.
Grimsley, Will. *Golf: Its History, People and Events.* Englewood Cliffs, N.J.: Prentice-Hall, 1966.
Lindsay, Peter. "A History of Sports in Canada, 1807-1867." Ph.D. dissertation, University of Alberta, Canada. 1969.

RESEARCH

Adler, Jack D. "A Kinesiological Analysis of the Golf Swing." Master's thesis, University of Washington, 1960.
Averback, B.L. "Progress on the Number One Wood." *Technology Review,* May 1969. A study of steel vs plastic clubface and steel vs aluminum shaft performance.
Be Vacqua, Yvonne Ann. "A Comparison of the Influence of Two Club Progressions on the Ability of Beginning Golf Students to Hit a Golf Ball." Master's thesis, University of Colorado, 1964.
Brewer, Everett Lowayne. "An Evaluation of the Effectiveness of Instructional Television as Applied to Learning Beginning Golf Skills." Master's thesis, Central Washington State College, 1969.
Broer, Marion R. and Houtz, Sara Jane. *Patterns of Muscular Activity in Selected Sports Skills.* Charles C. Thomas, Publisher, 301-27 E. Lawrence Ave., Springfield, Ill. 62700. 1967. Electromyographic studies of various activity skills including golf.
Brown, H. Steven. "A Test Battery for Evaluating Golf Skills." *Texas AAHPER Journal,* May 1969. (Also appears in Haskins, Mary Jane. *Evaluation in Physical Education,* listed under measurement and evaluation section.)
Cochrane, June F. "The Construction of an Indoor Golf Skills Test as a Measure of Golfing Activity.' Master's thesis, University of Minnesota, 1960.
Danforth, Susan Posey. "Cinematographic Analysis of Clubhead Withdrawal in Golf." Ph.D. dissertation, University of California at Los Angeles, 1964.
Garrison, Levon E. "Electromyographic-Cinematographical Study of Muscular Activity During the Golf Swing." Ed.D. dissertation, Florida State University, 1963.
Huckelbridge, Jane. "A Golf Skill Test Using the Five Iron." Unpublished paper. Southern Illinois University, Aug. 1965.
McClure, Carolyn C. "The Physiques of Professional and Amateur Women Golfers." Master's thesis, San Diego State College, 1967.
Olsen, Andrea Cathryn. "The Development of Objective Tests of the Ability of Freshmen and Sophomore College Women to Drive and

to Pitch a Plastic Ball in a Limited Indoor Area." Master's thesis, University of Colorado, 1958.
Park, Patricia A. "A Status and Opinion Study of the Effect of the United States Golf Association Amateur Rule on Women Professional and Amateur Golfers, and Physical Education Instructors of Golf." Master's thesis, Lamar State College of Technology, 1969.
Reese, Pat. "A Comparison of the Scores Made on an Outdoor and the Scores Made on an Indoor Golf Test by College Women." Master's thesis, University of Colorado, 1960.
Stallard, Maryll. "The Effect of Two Learning Methods and Two Grips on the Acquisition of Power and Accuracy in the Golf Swing of College Women Beginning Golfers." Master's thesis, University of Washington, 1965.
Thomas, Richard A. "The Use of a Visual Device in Teaching the Downswing in Golf." Ph.D. dissertation, Florida State University, 1969.
Thompson, Donnis Hazel. "Immediate External Feedback in Learning Golf Skills." *Research Quarterly* 40 (Oct. 1969), pp. 589-594.
West, Charlotte and Thorpe, Joanne. "Construction and Validation of an Eight-Iron Approach Test." *Research Quarterly* 39 (Dec. 1968), pp. 1115-1120.
Wiren, Gary. "Human Factors Influencing the Golf Driver." Ph.D. dissertation, University of Oregon, 1968.

PERIODICALS

Golf. Universal Publishing and Distributing Corp., 235 E. 45th St., New York, N.Y. 10017. Published monthly. Available at newsstand or by subscription, $7 per week. 75 cents per copy.
Golf Digest. Golf Digest, Inc., 88 Scribner Ave., Norwalk, Conn. 06856. Published monthly. Available at newsstand or by subscription, $5.95 one year, $10.95 two years, $13.95 three years, 75 cents per copy.
The Golf Journal. United States Golf Association, 40 E. 38th St., New York, N.Y. 10016. Published monthly March-Nov. Subscription $3 one year, $5.50 two years., $7.50 three years, 40 cents per copy.
The Lady Golfer. Seidal Publications, Box 1118, Scottsdale, Ariz. 85252. Published 10 times annually. Subscription $6 one year, 75 cents per copy.
Par Magazine. Sports Group, Inc., 200 W. 47th St., New York, N.Y. 10019. Published 9 times annually. Subscription $3.95 one year, $6.95 two years, $8.95 three years, 60 cents per copy.
The Professional Golfer. PGA National Headquarters, Box 12458, Palm Beach Gardens, Fla. 33403. Published monthly. Subscrip-

tion $4 one year, $7 two years, $10 three years, 50 cents per copy.

Tee It Up. Magazine for junior golfers. National Junior Golfers Association, P.O. Box 27538, Station 7, Atlanta, Ga. 30327. Published 10 times per year. Subscription $6 per year, 75 cents per copy.

The Woman Golfer. The Woman Golfer Publishing Corporation, 131 Lincoln Highway, Frankfort, Ill. 60423. Published 9 times per year. Subscription $5 per year, 60 cents per copy.

Golf Visual Aids

RUTH M. SPARHAWK

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Prices listed are subject to change. Numbers in parentheses refer to film distributors listed.

16 mm Films

All Star Golf. 1959-60, b&w. Free loan (1). Films of past TV All-Star golf matches featuring men and women professionals.

Better Golf with Arnold Palmer. 28 min., b&w. Free loan (4). Film starring Arnold Palmer at Kaiser Open. Palmer describes how he played, the type of shots that faced him, and what happened.

Complete Golf Instruction Movies. Color, sd. Rental (14), sale (10). A series of five units.

Unit 1–*Welcome to Golf.* 13 min. Rental $5, sale $65. Expertly motivates students to want to play golf. Aids students to understand the game, the golf course, and equipment.

Unit 2–*Building Your Swing.* 27 min. Rental $10, sale $135. Explains how the swing is developed. Discusses stance, rhythm, movements of upper and lower body.

Unit 3–*Pitching, Pitch and Run, and Sand Shots.* 12 min. Rental $5, sale $65. Teaches fundamentals of pitching, pitch and run, and explosion out of sand traps.

Unit 4–*Putting.* 10 min. Rental $5, sale $65. Demonstrates and teaches several approved techniques. Explains wrist tap and stroke method of applying momentum to ball as well as how to play uneven greens.

Unit 5–*Courtesy on the Course.* 18 min.

Common Swing Errors of Beginning Golfers. 21 min., b&w, sd. Rental $3.25, sale $75. (2). Film #U6357. Useful reference for physical education students preparing to teach golf and for inexperienced golf teachers.

Courtesy on the Course. 18 min., color, sd. Rental $25. (3). Newest golf instruction film includes every aspect of the game–e.g., fairway and putting procedures, violations, golf etiquette, and the enjoyment derived from playing.

Keep 'Em in the Fairway. 38 min., b&w, sd. Free loan (5). PGA Teaching Committee highlights five golf fundamentals.

Lifetime Sports in Education. 17 min., color. (6). Shows methods of clinicians from the AAHPER Lifetime Sports Education Project as they conduct classes for students and teachers in golf, archery, bowling, tennis, and badminton.

Play Them As They Are. Color. Rental $10. (7). The USGA rules for fairway and rough are explained in detail.

Rules of Golf–Hazards. 18¼ min., b&w, color. Rental–b&w $3, color $5. (7). Privileges and prohibitions are demonstrated by "Mrs. Right" and "Mr. Wrong."

St. Andrews Cradle of Golf. 14 min., color. Rental $10. (7). A historic travelogue to the famous Royal Burgh of Scotland and to St. Andrews Old Course, the world's most famous layout.

Six Lessons From Gene Littler. 24 min., b&w. Free loan (8). Instructional film featuring the U.S. Open Champion in 1961. Deals with grip, stance, chip and pitch shots, full irons, woods, putting, and special shots such as sidehill, uphill, and downhill.

Sportlite: Golf #1–Patty Berg. 12½ min., b&w. Rental $10. (3). Patty Berg, nationally known woman professional, gives tips to improve one's game. Film also includes putting and driving exhibitions.

Tips From Top Pros. 12½ min., b&w. Rental $10 each. (3). Five instructional films by top-ranking touring professionals. 1–How to Handle Each Club. 2–Trouble Lies. 3–Long Irons. 4–Grip. 5–Trouble Shots.

Winning Golf. 1962, 35 min., color, sd. (9). An instructional film featuring Jack Nicklaus. Cosponsored by MacGregor Div. of Brunswich Sports and Photo Products Dept. of Dupont Company under the technical supervision of Bob Kepler, golf coach, Ohio State University.

Women's World of Golf. b&w, sd. Rental $10 each., $25 series; sale $75 ea. (3). Series of three films. (TV and theatrical rights reserved.)

Unit 1–15 min. Patty Berg emphasizes the importance of the correct grip, proper swing, fairway woods, hook, slide and sand shots.

Unit 2–17 min. Betsy Rawls demonstrates the proper backswing, position of the ball, short irons, chipping, and putting.

Unit 3–20 min. Mickey Wright demonstrates hitting the long ball, correcting the slice, shifting the weight.

8 mm Films

Instructional Films. Sale (11). Set of 3 films. 1–Teeing Off. 2–Iron Play. 3–Putting. Available singly or as a complete unit.

Sportlite: Golf Lessons. b&w. Rental $2.75 ea., $10.50 series. (3). Series of four films featuring Johnny Revolta on 1–Woods and 2–Short Irons, and Mickey Wright on 3–Hitting the Long Ball and 4–Correction of the Slice.

Filmstrips

Beginning Golf. 35 mm., color, sd., si. Rental $3.50, sale–sd. $65, si. $55. (10). Available in complete sets only. Six units. Includes instructor's guide and student handbook, *How to Improve Your Golf.*

Unit 1–*The Game.* 10 min. Discusses game background, equipment, the golf course, par, and how the game is played.

Unit 2–*Get Set to Swing.* 11 min. Presents an overall view of the total swing. Discusses factors that control posture and rhythm.

Unit 3–*Building Controls into Your Swing.* 19 min. Continues discussion of control factors. Shows the importance of hands and arms in controlling arch and plane. Graphically demonstrates the importance of upper and lower body in the interaction of creative resistive forces.

Unit 4–*Getting on the Green.* 9 min. Teaches pitch and run, and explosion shot out of sand traps.

Unit 5–*Putting.* 10 min. Demonstrates firm wrist putting. Teaches both tap and stroke method of applying momentum to ball.

Unit 6–*Courtesy and Etiquette of Golf.* 8 min. Review of behavior on the course that makes golf fun for everybody.

Group Golf Instruction. Color, sd. Sale $12. (12). Produced by AAHPER Lifetime Sports Education Project to illustrate group teaching techniques aimed at optimum use of time, space, equipment, and personnel in the teaching of golf.

Loop Films

Fundamental Skills in Golf. Super 8 mm, color. Sale $18.95 ea., $108 series. (10). Series of six loops. Instructional guide accompanies each loop.

Unit 1–*The Grip, The Address.*

Unit 2–*The Full Swing, Woods, and Irons.*

Unit 3–*The Short Approach, Pitch and Run Shot, Pitch Shot.*

Unit 4–*The Putt.*

Unit 5–*The Sand Explosion Shot.*

Unit 6–*Uneven lies, Downhill, Sidehill.*

Seven Loops on Golf. by Bruce Fossu. 8 mm, color. Sale $160.65. (13).

Posters

Golf Rules Wall Chart. National Golf Foundation, 707 Merchandise Mart, Chicago, Ill. 60654.

Group Golf Instruction. Sale $9 series. AAHPER, 1201 16th St., N.W., Washington, D.C. 20036. A series of 24-hour photo illustrations reproduced on six 24-x 30-inch plastic posters demonstrating class organization for group instruction.

Film Distributors

1. Miller Brewing Company, Film Section, Sales, Promotion, and Publicity Dept., 400 W. State St., Milwaukee, Wis. 53208.
2. Audio Visual Center, University of Iowa, Iowa City, Iowa 52240.
3. Sportlite Films, 20 N. Wacker Dr., Chicago, Ill. 60606.
4. Sears Roebuck and Company, Audio Visual Div., Dept. 703, 303 E. Ohio St., Chicago, Ill. 66611.
5. Professional Golfers Association, Film Library, P. O. Box 12458, Palm Beach Gardens, Fla. 33403.
6. State Director of Health, Physical Education, and Recreation of the Department of Education in all states.
7. United States Golfers Association, 40 E. 38th St., New York, N.Y. 10016.
8. Golf Films, Inc., 1868 Holton St., St. Paul, Minn. 80913.
9. National Collegiate Athletic Association, c/o Sterling Films, 512 Burlington Ave., LaGrange, Ill. 60525.
10. National Golf Foundation, 707 Merchandise Mart, Chicago, Ill. 60654.
11. Columbia Pictures, 8mm Home Movies Sales Div., 711 5th Ave., New York, N.Y. 10022.
12. American Association for Health, Physical Education, and Recreation, 1201 16th St., N.W., Washington, D.C. 20036.
13. Ealing Corporation, 2225 Massachusetts Ave., Cambridge, Mass. 02140.
14. Ideal Pictures, 417 N. State St., Chicago, Ill. 60610.

DGWS SPECIAL PUBLICATIONS

DGWS Research Report: Women in Sports. 1971 ..... (243-06920)
Forward Riding Manual for Teachers ..... (243-07342)
GAA Manual. 1966 ..... (243-07730)
Handbook for Teaching Basketball Officiating. 1969 ..... (243-08038)
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"Polly" Cartoons II. 1971 ..... (243-25170)
AIAW Handbook. 1971 *published annually* ..... (243-25228)
Selected Archery Articles. 1971 ..... (243-25160)
Selected Aquatics Articles. 1971 ..... (243-07596)
Selected Fencing Articles. 1971 ..... (243-25134)
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Selected Soccer-Speedball Articles. 1971 ..... (243-25152)
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Selected Tennis-Badminton Articles. 1970 ..... (243-06894)
Selected Track and Field Articles. 1971 ..... (243-25166)
Selected Volleyball Articles. 1970 ..... (243-06896)
Sports Programs for College Women ..... (243-25124)
Training of Judges for Girls Gymnastics. 1971 ..... (243-06922)
Techniques Charts
Archery. 1969 ..... (243-08046)
Badminton. 1967 ..... (243-07842)
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Speedball. 1969 ..... (243-08050)
Tennis. 1967 ..... (243-07844)
Volleyball. 1969 ..... (243-08052)
Second National Institute on Girls Sports. Fencing, diving, canoeing and kayaking, track and field, and gymnastics ..... (243-07220)
Third National Institute on Girls Sports. Skiing and figure skating ..... (243-07768)
Fifth National Institute on Girls Sports. 1969. Basketball, gymnastics, and track and field coaching and officiating ..... (243-08054)

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